Jeep

Diagnosis and Repair Bulletin

Subject: Six-Cylinder Camshaft Pin Breakage	Application: 1977-80 Jeep Vehicles With Six-Cylinder Engines	File: POWER PLANT Engines No. 80-3 Feb. 4, 1980

If incorrect valve timing is indicated after checking valve timing, the cause may be a broken camshaft pin. It is no longer necessary to replace the camshaft because of pin failure. A spring pin is now available as a service replacement part.

Service correction involves replacing a broken camshaft pin with a new spring pin.

The following parts are available and will be required.

Description	Quantity	Part No.	Group
PIN, Spring (Camshaft)	1	GM456384	1.040
GASKET SET, Timing Case Cover	1	8129097	1.121
SCREW, Hex Washer Head Tapping	1	G448423	17.671

PROCEDURE

(1) Disconnect battery negative cable.

(2) Drain radiator.

NOTE: *Do not waste usable coolant. Collect drained coolant in a clean container.*

(3) Remove fan and shroud.

(4) Disconnect overflow hose, radiator hoses and transmission cooler lines from radiator and remove radiator.

(5) If equipped with air conditioning:
- (a) Remove air conditioning belt intermediate pulley.
- (b) Disconnect and remove alternator.

CAUTION: *Do not loosen or disconnect any air conditioning system fittings. Move the condenser aside as a complete assembly.*

- (c) Remove air conditioning condenser attaching bolts and move condenser up and out of way.

(6) Remove all drive belts.

(7) Remove crankshaft vibration damper.

(8) Remove timing chain cover.

(9) Remove camshaft gear bolt and remove gear and chain.

CAUTION: *The following procedural step must be performed to prevent the camshaft from damaging the rear camshaft plug during pin installation.*

(10) Remove fuel pump. Insert suitable tool into fuel pump opening and wedge tool against side of opening and camshaft to prevent camshaft movement.

(11) Inspect damaged camshaft pin.
- (a) If pin is spring pin, remove broken pin by inserting G448423 screw into pin and carefully pulling pin from camshaft.
- (b) If pin is dowel pin:

  CAUTION: *Be sure the exact center is located when center punching the pin.*
  1. Center punch pin.
  2. Drill through pin center using 5/32-inch drill bit.
  3. Insert G448423 screw into drilled pin and carefully pull pin from camshaft.

  NOTE: *Cover the open oil pan area to prevent metal chips from entering the pan.*

(12) Clean camshaft pin hole of any loose material.

(13) Compress replacement spring pin in center using vise grips. Carefully drive pin into camshaft until it is seated.

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CAUTION: *If the camshaft moves rearward, reposition the tool wedged against the camshaft so that the camshaft cannot move. If the camshaft moves rearward, damage to the rear camshaft plug may result.*

(14) Install camshaft gear and timing chain. Tighten camshaft gear bolt to 50 foot-pounds (68 N·m) torque. Check valve timing as outlined in 1980 Jeep Technical Service Manual.

(15) Remove tool wedged in fuel pump opening. Install fuel pump. Tighten pump bolts to 16 foot-pounds (22 N·m) torque and connect fuel lines.

(16) Remove timing case cover seal and clean cover.

(17) Position oil pan tab gaskets on oil pan and use RTV type sealer to hold gasket in place. Coat both sides of timing case cover gasket with sealer. Apply 1/8-inch (3 mm) bead of sealer to joint formed at oil pan and cylinder block.

(18) Loosen front four oil pan bolts about 3 turns to allow oil pan movement during timing case cover installation.

(19) Position timing case cover on engine. Place timing case alignment tool and seal installer J-22248, in crankshaft opening of cover.

(20) Install and tighten oil pan and front cover screws.

NOTE: *Tighten 1/4-20 oil pan screws to 7 foot-pounds (9 N·m) torque and 5/16-18 oil pan screws to 11 foot-pounds (15 N·m) torque.*

(21) Remove cover aligning tool and position replacement oil seal on tool with lip facing outward. Apply light film of AMC Perfect Seal, or equivalent, on outside diameter of seal.

(22) Position tool and seal in front cover opening. Use vibration damper bolt to pull seal into front cover. Turn bolt until tool bottoms against cover.

(23) Remove tool and install vibration damper on crankshaft. Tighten damper bolt to 80 foot-pounds (108 N·m) torque.

NOTE: *If the crankshaft turns before the damper bolt torque value is reached, the damper can be held from turning by placing two 5/16 X 1-1/2-inch bolts into the vibration damper front pulley holes and wedging a bar between them. Rotate the bar until it contacts the frame member to prevent the damper from turning.*

(24) If equipped with air conditioning:
- (a) Install air conditioning belt intermediate pulley.
- (b) Install alternator.
- (c) Install air conditioner condenser.

(25) Install drive belts on pulleys.

(26) Install radiator. Connect radiator hoses, transmission cooler lines if equipped and fill cooling system.

(27) Install fan and shroud.

(28) Follow belt tightening procedure outlined in 1980 Jeep Technical Service Manual.

(29) Tighten fan assembly nuts to 18 foot-pounds (24 N·m) torque.

(30) Connect battery negative cable.

The following operation and standard work times will apply:

OPERATION DESCRIPTION	COST CODE	OPERATION NUMBER	MODEL	YEAR AND TIME				SKILL LEVEL
				77	78	79	80	
PIN, SPRING CAMSHAFT GEAR DRIVE— REPLACE	1.040	1163	6-Cyl.	1.7	1.7	1.7	1.7	G
With Air Conditioning— Add				0.3	0.3	0.3	0.3	
With Power Steering— Add.				0.4	0.4	0.4	0.4	
Includes 6 minutes helper time.								

80-044-01A/J

Diagnosis and Repair Bulletin

Subject: New Timing Chain Assembly and Deflection Inspection Procedure	Application: 1979 Jeep Vehicles with Eight-Cylinder Engines	File: POWER PLANT Engines No. 9-01 June 20, 1979

A new timing chain, camshaft sprocket, and crankshaft sprocket have been phased into production for eight-cylinder engines.

The new parts can be installed in previous year 304, 360, and 401 CID engines as a set only. These parts can not be used as replacements for the heavy-duty timing chain and sprockets.

CAUTION: *The new chain and sprockets are not interchangeable on a one for one basis with the previous design components. If one component of the new design is used, the other two components must be of the new design.*

The new timing chain has different deflection characteristics than does the previous design chain. The following chain deflection inspection measurement procedure is required to determine the necessity for replacement.

The following parts are available and may be required:

Description	Quantity	Part No.	Group No.
CHAIN, Timing	1	3234433	1.130
SPROCKET, Camshaft	1	3234234	1.134
SPROCKET, Crankshaft	1	3234235	1.132

PROCEDURE

(1) Remove timing case cover. Refer to appropriate Technical Service Manual for procedure.

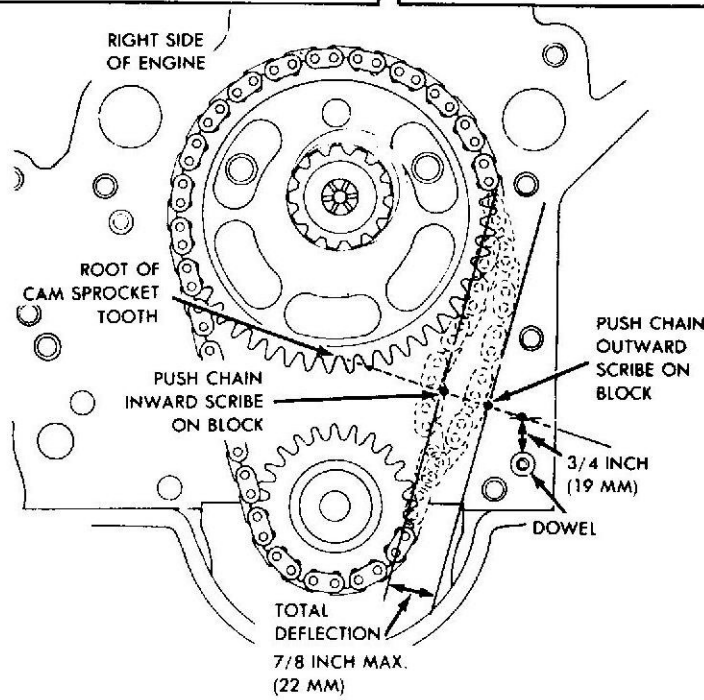
(2) Rotate camshaft or crankshaft sprocket until all slack is removed from right side of chain.

(3) Determine reference point on timing chain for deflection measurement as follows:

(a) Measure up from dowel on left side of engine 3/4 inch (19 mm) (see illustration).

(b) Lay straightedge across timing chain from point at root of camshaft sprocket tooth to point 3/4 inch (19 mm) above dowel

(c) Grasp chain at point where straightedge dissects chain. Use this point for reference spot.



Camshaft And Crankshaft Sprockets And Timing Chain As Viewed From Front Of Engine

(4) Push chain in toward centerline of engine and mark block at point of maximum inward chain deflection.

(5) Pull chain outward from centerline of engine and mark block at point of maximum outward chain deflection.

(6) Measure between the two marks to determine total deflection.

(7) Replace chain assembly if deflection (wear) exceeds 7/8 inch (22 mm).

(8) Install timing case cover following procedure in appropriate Technical Service Manual.

The Standard Servicing Operation and work times as published in the current SSO Manual are not affected by this bulletin.

9-077-01A/J

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Diagnosis and Repair Bulletin

Subject: New Voltage Regulator Tester	Application: 1975-81 Jeep Vehicles	File: POWER PLANT — Engine Electrical No. 81-1 June 11, 1981

A new voltage tester that will verify the condition of voltage regulators used with 10-SI series Delco, K1 series Bosch, Motorcraft, and 8-AL series Motorola alternators is now available through the amserv program under code number OT 60884. Because the new tester is capable of simulating the field, stator, battery, ground, and indicator light circuits, the tester is able to perform a complete check on all of the regulator operating modes.

The new tester should be used to verify voltage regulator condition before replacement or to verify the condition of a replacement regulator before installation. Also, when using the tester to diagnose a suspected voltage regulator malfunction, be sure to follow the test procedures outlined in the instruction manual supplied with each tester.

The standard servicing operations and work times as published in the current SSO manual are not affected by this bulletin.

81-095-03A/J

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Diagnosis and Repair Bulletin

Subject: Tachometer RPM Drop When Operating Cigar Lighter or Backup Lamps	Application: 1979 CJ Models Equipped with Tachometer	File: POWER PLANT Engine Electrical No. 9-04 Dec. 7, 1979

The tachometer in some 1979 CJ-5 and CJ-7 models may indicate a false RPM drop when the cigar lighter or backup lights are activated.

Service correction involves modifying the tachometer wiring.

PROCEDURE

(1) Open hood.

(2) Disconnect battery negative cable.

(3) Disconnect outer bulkhead connector (inside engine compartment) from dash panel connector.

(4) Reaching under instrument panel, remove screws that hold fuse block to dash panel. Rotate fuse block from hole in dash panel and separate fuse block from dash panel connector. - Rotate rear of fuse block so that wires face out (see illustration).

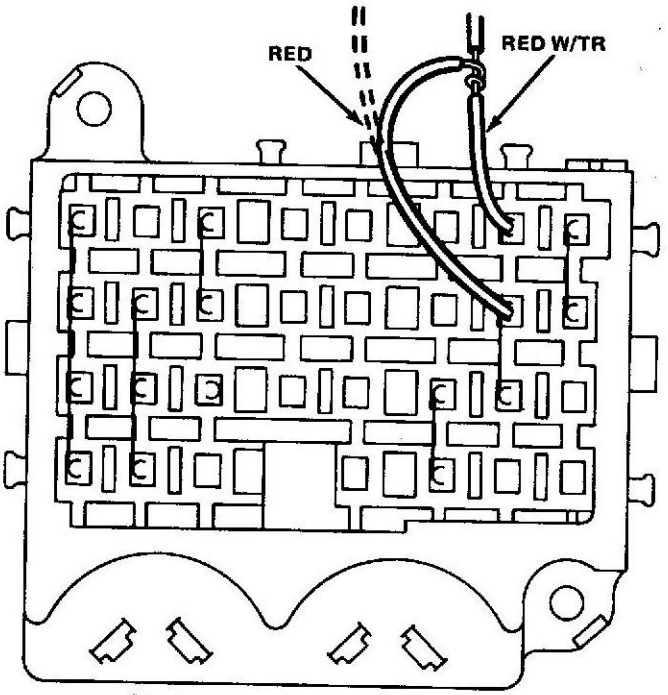
(5) Locate red wire and cut wire approximately 1-1/2 inches from fuse block (see illustration). Tape exposed end of wire to harness to ensure that wire cannot contact any body components.

(6) Strip approximately 1/2 inch of insulation from 1-1/2-inch long red wire attached to fuse block.

(7) Strip approximately 1/2 inch of insulation from red with tracer wire about 1-1/2 inches from fuse block (see illustration).

(8) Join two stripped wires and solder joint with rosin core solder or equivalent.

(9) Wrap joint with electrical tape.



Tachometer Wiring Modification

(10) Connect fuse block and dash panel connector. Position fuse block into dash panel and tighten retaining screws.

(11) Connect outer bulkhead connector (inside engine compartment).

(12) Connect battery negative cable.

(13) Close hood.

(14) Reset clock and check operation of tachometer.

The following operation and standard work time will apply:

OPERATION DESCRIPTION	COST CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				79	80	81	
HARNESS, INSTRUMENT PANEL— MODIFY	3.165	3347	83-93	0.3			G

9-118-03J

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Diagnosis and Repair Bulletin

Subject: Oil Pressure Gauges and Sending Units	Application: All 1979 CJ Models	File: POWER PLANT Engine Electrical No. 9-03 February 21, 1979

Either a Stewart-Warner or Faria oil pressure gauge is used in 1979 CJ Models. The Stewart-Warner gauge has four terminals and requires a Stewart-Warner sending unit (fig. 1). The Faria gauge has three terminals and requires an Introl sending unit (fig. 2).

NOTE: *The gauges and sending units must be used as matched sets only. They have different resistance values and cannot be interchanged.*

The same diagnosis and test procedures are used for both sets. When checking gauge operation, refer to the following charts for correct resistance values.

STEWART-WARNER RESISTANCE VALUES (OHMS)

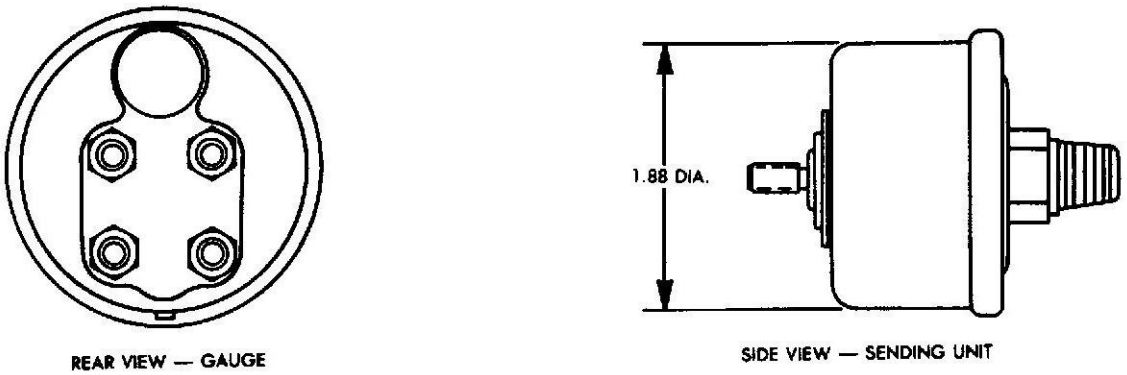
PSI	0	20	40	60	80
OHMS	234-246	149-157	101-106	65-69	33-35

FARIA RESISTANCE VALUES (OHMS)

PSI	0	40	80
OHMS	73	20	10

If it becomes necessary to replace a gauge and sending unit, be sure they are replaced as a matched set only. Part numbers for the gauges and sending units are as follows:

Description	Quantity	Part No.	Group No.
GAUGE, Stewart-Warner Oil Pressure	1	5460640	3.605
SENDING UNIT, Stewart-Warner	1	5460643	3.605
GAUGE, Faria Oil Pressure	1	5750279	3.605
SENDING UNIT, Introl	1	3212004	3.605



REAR VIEW — GAUGE

SIDE VIEW — SENDING UNIT

Fig. 1 Stewart-Warner Oil Pressure Gauge and Sending Unit

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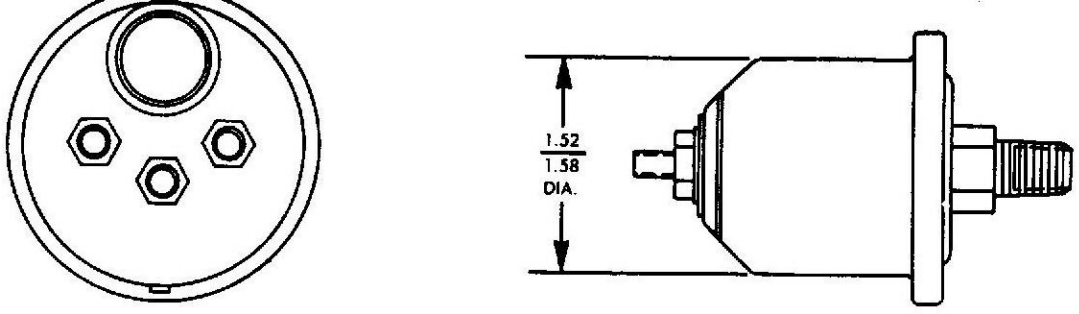

REAR VIEW — GAUGE

SIDE VIEW — SENDING UNIT

Fig. 2 Faria Oil Pressure Gauge and Introl Sending Unit

The Standard Servicing Operations and work times as published in the current SSO manual are not affected by this bulletin.

9-057-03J

Jeep

Diagnosis and Repair Bulletin

Subject: Ammeter Circuit and Wiring Diagram Revisions	Application: 1978-79 Cherokee, Wagoneer, and Truck Models	File: POWER PLANT Engine Electrical No. 9-02 February 13, 1979

This bulletin is being issued to revise the ammeter circuit illustration for Cherokee, Wagoneer, and Truck models on page 1L-43, Volume 1 of the 1978 Technical Service Manual and on page 1L-45 of the 1979 Technical Service Manual. The revised circuit illustration is shown in figure 1. In addition, the wiring diagram for Cherokee, Wagoneer, and Truck models on page W-5 in the 1979 Technical Service Manual has also been revised to identify splice "B" as shown in figure 2.

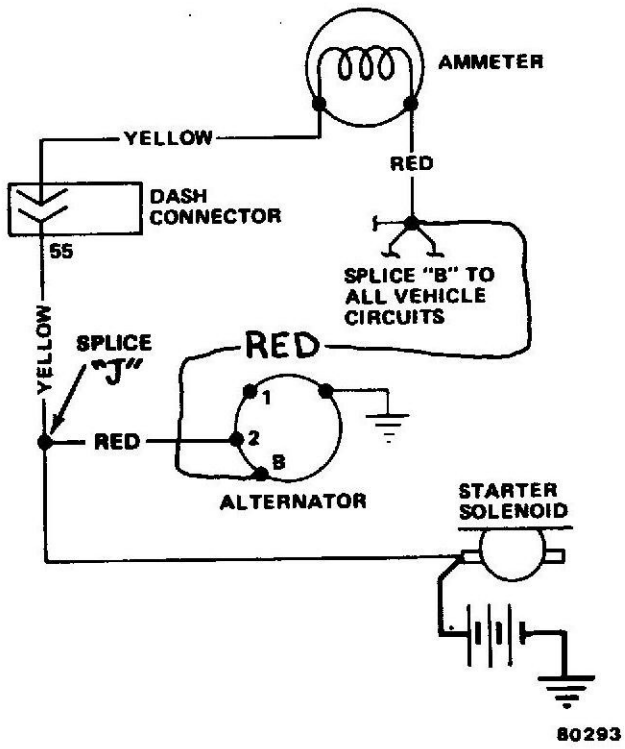

Fig. 1 Ammeter Circuit — Cherokee - Wagoneer - Truck Models

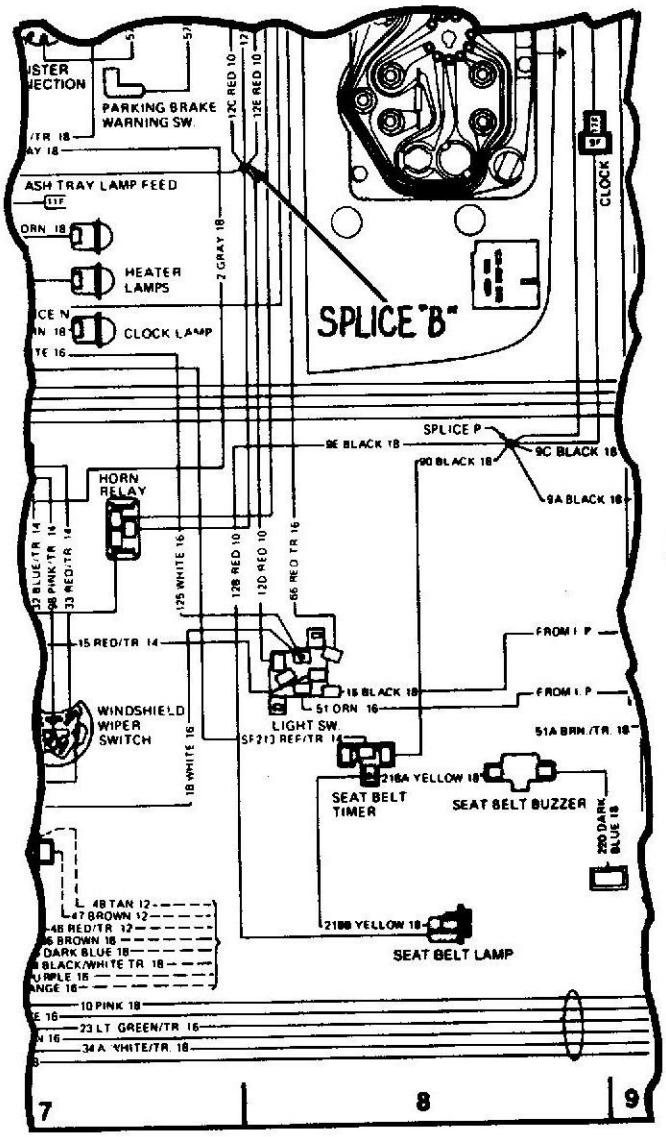

Fig. 2 Wiring Diagram W-5 — Cherokee - Wagoneer - Truck

9-056-SGJ

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Diagnosis and Repair Bulletin

Subject: Choke Jumper Harness	Application: 1979 Wagoneer, Cherokee and Truck Models Equipped with a V-8 Engine and Electric Choke	File: POWER PLANT Engine Electrical No. 9-01 December 8, 1978

Some 1979 Wagoneer, Cherokee and Truck models may have a choke jumper harness routed too close to the choke heat tube or exhaust manifold. A new choke harness routing procedure and replacement choke harness have been developed for extreme cases having choke harness heat damage.

Service correction involves routing the choke jumper harness away from the choke heat tube and/or exhaust manifold. Replacement of the choke jumper harness, oil pressure sending unit, and engine harness may be necessary if found to be damaged.

The following parts are available and may be required:

Description	Quantity	Part No.	Group
HARNESS, Electric Choke	1	5750277	3.169
SENDING UNIT, Oil Pressure	1	3231347	3.605
HARNESS, Engine	1	5750029	3.165
STRAP, Nylon Tie	1	3223227	3.165

INSPECTION PROCEDURE

(1) Remove air cleaner.

(2) Inspect choke jumper harness for proper routing and/or heat damage from choke heat tube or exhaust manifold (see illustration).

(3) If choke jumper harness has heat damage, inspect engine harness for possible related damage.

(4) Inspect oil pressure sending unit as described in Chapter 1L of 1979 Jeep Technical Service Manual.

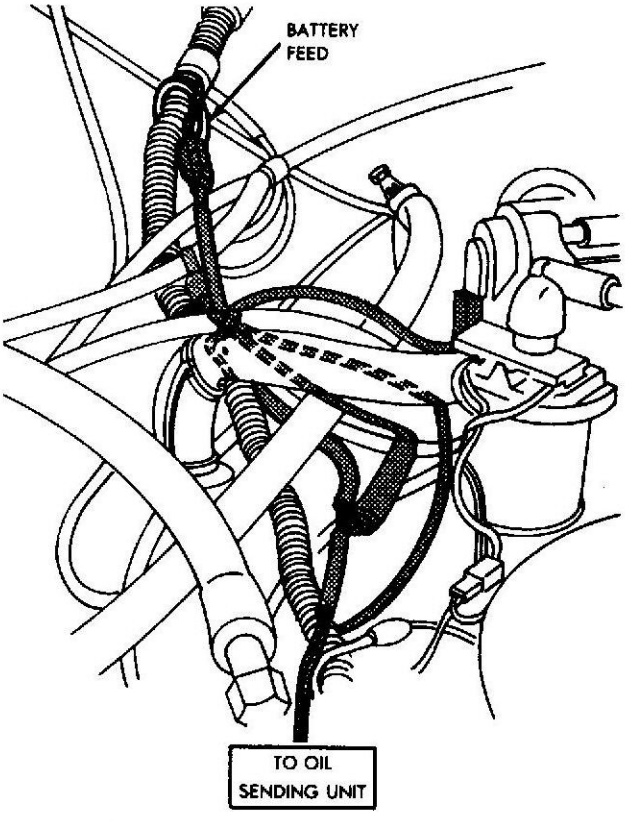
NOTE: *A defective oil pressure sending unit can cause damage to the choke jumper harness.*

(5) Install air cleaner if no corrections are necessary. If choke jumper harness needs routing corrected, refer to choke harness routing procedure. If choke jumper harness or engine harness needs replacing refer to harness replacement procedure.

CHOKE JUMPER HARNESS ROUTING PROCEDURE

(1) Route choke jumper away from exhaust manifold and choke tube (see illustration).

(2) Install nylon tie strap around engine harness and jumper harness loom approximately 1 inch from end of loom (see illustration).



Manual Transmission Vehicles

(OVER)

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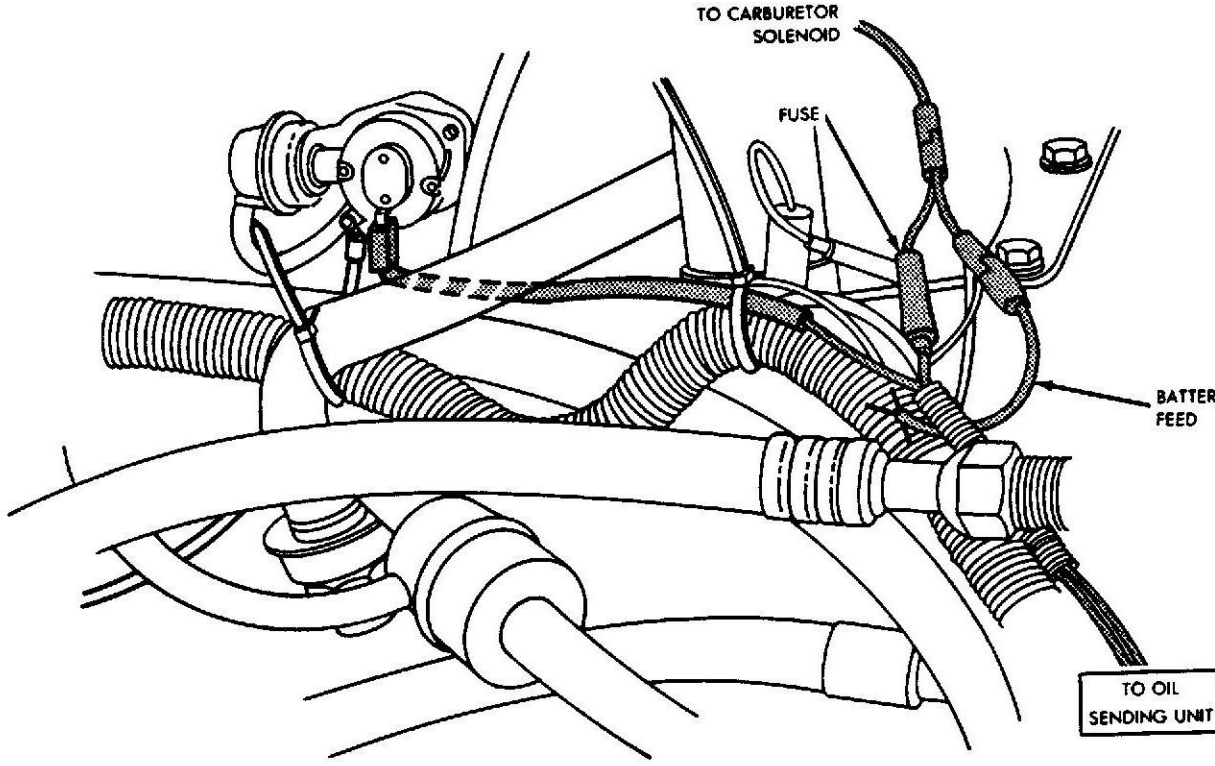
HARNESS REPLACEMENT PROCEDURE

(1) If choke jumper harness has heat damage replace harness and route as described in choke jumper harness routing procedure.

(2) Replace engine harness if heat damaged by excessive heat.

(3) Replace oil pressure sending unit if found to be defective during inspection.



Automatic Transmission Vehicles

The following operations and standard work times will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
HARNESS, ENGINE CHOKE JUMPER AND OIL PRESSURE SENDING UNIT — INSPECT	**3.165**	**3339**	**WAG-CKE-TRK**			**0.2**	**G**
Harness, choke jumper — Reroute	**3.165**	**A**				**0.1**	
Harness, choke jumper — Replace	**3.165**	**B**				**0.1**	
NOTE: *Combinations A and B cannot be used together.*							

9-022-03J

Diagnosis and Repair Bulletin

Subject: Altitude Performance Adjustments	Application: 1968-80 Jeep Vehicles	File: POWER PLANT — Fuel and Exhaust No. 80-7 Nov. 10, 1981

This bulletin is being issued to outline the altitude performance adjustments for 1968-80 Jeep vehicles required under a newly established Federal standard. The adjustments are intended to improve driveability performance as well as emissions performance at altitudes other than that for which the vehicles were originally certified.

Any Jeep vehicle that has been so adjusted must have a unique emission control information label installed. These unique labels are available in a kit, part number 3242106 from the following facility:

American Motors Corporation
Distribution Services
37200 Amrhein Road
Livonia, Michigan 48150

The adjustment procedures and unique labels must be made available at no cost to independent repair facilities and the general public. A notification is also provided in current owners manuals to make customers aware of these adjustments.

ADJUSTMENT PROCEDURES

On Jeep vehicles originally sold for operation at altitudes **below** 4,000 feet that are being operated above 4,000 feet, the ignition timing, as shown on the vehicle emission control label located in the engine compartment or specified in the appropriate Jeep Technical Service manual should be advanced 5° (not to exceed 15° total advance). The engine idle speed should be reset according to the procedures and idle speed specification outlined in the appropriate Jeep Technical Service Manual for the year of vehicle being serviced.

After performing these adjustments, attach emission control label, part number EF 8130457, to the engine compartment dash panel. Do not attach the label to any component that can be readily removed from the vehicle.

These adjustments apply to all 1968-80 Jeep vehicles that were sold for principal use at altitudes below 4,000 feet. Refer to the vehicle emission control label in the engine compartment to identify these vehicles.

On 1968-80 Jeep vehicles originally sold for operation at altitudes **above** 4,000 feet that are being operated below 4,000 feet, the ignition timing, as shown on the vehicle emission control label located in the engine compartment or specified in the apropriate Jeep Technical Service Manual should be retarded 5°. The engine idle speed should be reset according to the procedures and idle speed specifications outlined in the appropriate Jeep Technical Service Manual for the year of the vehicle being serviced. After performing these adjustments, attach emission control label, part number EF 8130458, to the engine compartment dash panel. Do not attach the label to any component that can be readily removed from the vehicle.

These adjustments apply only to 1968-80 Jeep vehicles that were sold for principal use at altitudes above 4,000 feet. Refer to the vehicle emission control label in the engine compartment to identify these vehicles.

81-114-04A/J

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Diagnosis and Repair Bulletin

Subject: Engine Performance Diagnosis	Application: 1979 Jeep Six- and Eight-Cylinder Engines	File: POWER PLANT Fuel And Exhaust Systems No. 9-07 Jan. 16, 1981

Procedures for diagnosing an engine rough idle or cold engine stalling at idle speed condition on 1979 Jeep six- and eight-cylinder engines are outlined in Chapter 1A of the 1979 Jeep Technical Service Manual. Included among the possible causes for these conditions is faulty EGR valve operation. To avoid an incorrect diagnosis of these conditions, it is necessary to check EGR valve operation to make sure that it is operating properly and that it does not stick open. Should an EGR valve stick open, a greater than normal amount of exhaust gas would be recirculated and could result in an engine rough idle condition.

Service diagnosis involves checking the EGR system for vacuum leaks, disconnected hoses, correct hose routing, and testing EGR valve operation as outlined in this bulletin and in Chapter 1A of the 1979 Jeep Technical Service Manual. The EGR valve is an exhaust emission control system component and is warranted under the 5-year/50,000 mile emission warranty.

PROCEDURE

(1) Check for leaking or disconnected vacuum hoses.

  (a) Repair or replace any leaking or disconnected hoses, verify service correction and return automobile to owner.

  (b) If condition is not corrected, proceed to next step.

(2) Verify correct vacuum hose routing. Refer to vacuum diagrams in Chapter 1J in 1979 Jeep Technical Service Manual.

  (a) Correct hose routing if necessary, verify service correction and return vehicle to owner.

  (b) If hose routing is correct and condition is still evident, proceed to EGR Valve Opening Test.

EGR Valve Opening Test

NOTE: *The engine must be at normal operating temperature for this test.*

(1) Operate engine at hot (curb) idle.

(2) Open and close throttle rapidly and check for movement of EGR valve diaphragm. Be sure throttle is opened enough to allow engine speed to reach 1500 rpm.

  (a) If valve diaphragm moves, proceed to EGR Valve Closing Test.

  (b) If valve diaphragm does not move, proceed to next step.

(3) Check vacuum hoses again, repair as necessary, and repeat step (2).

  (a) If valve diaphragm moves, proceed to EGR Valve Closing Test.

  (b) If valve diaphragm does not move and vacuum hoses and connections are in good condition, proceed to EGR Valve Replacement.

EGR Valve Closing Test

NOTE: *The engine must be at normal operating temperature for this test.*

(1) Operate engine at hot (curb) idle.

(2) Press EGR valve diaphragm inward. Engine speed should decrease immediately if valve is operating properly.

  (a) If engine speed does not change and engine idles properly, check for restricted passage between valve and intake manifold, or for seized valve.

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(b) If engine does not idle properly and speed is not affected greatly, check vacuum hoses and connections again and check for seized value.

(3) If EGR valve diaphragm will not move when pressed, valve is seized in open position. Proceed to EGR Valve Replacement.

EGR Valve Replacement

(1) On eight-cylinder engines, remove air cleaner.

(2) Disconnect vacuum hose at EGR valve.

(3) Remove EGR valve attaching bolts and remove valve, gaskets, and restrictor plate. Discard gaskets.

NOTE: *On 304 CID eight-cylinder Jeep engines with California certification, a back-pressure sensor is part of the EGR system. The sensor must be removed, cleaned, and installed when replacing the EGR valve.*

(4) Clean mating surfaces of valve, manifold, and restrictor plate.

(5) Assemble EGR valve, gaskets, and restrictor plate.

(6) Install EGR valve assembly and valve attaching bolts. Tighten bolts to 14 foot-pounds (19 N·m) torque.

(7) Connect vacuum hose to EGR valve.

(8) On eight-cylinder engine, install air cleaner.

The standard servicing operations and work times as published in the 1979 Jeep SSO Manual are not affected by this bulletin.

9-123-01A/J

Jeep

PRODUCT RECALL CAMPAIGN
Diagnosis and Repair Bulletin No. Below

Subject: **BACSENS CAMPAIGN (Type E Product Recall Campaign): Exhaust Gas Recirculating (EGR) Back-Pressure Sensor Replacement and Adjustment of Idle Mixture Setting (Lean Idle Drop Specification Change to 50 RPM for all Six-Cylinder Engines)**

Date: **December 19, 1979 Revised**

Application: **1974-1979 Jeep Vehicles (See Application Chart Below)**

File: **(See Chart Below)**

JEEP APPLICATION CHART

1974 California	1975 California	1976 49-State	1976 California	1977 California	1978 California	1979 California
360 CID	258 CID	232 CID	258 CID	258 CID	304 CID	304 CID
	304 CID	258 CID	304 CID	304 CID		
	306 CID	304 CID	360 CID			
	401 CID		401 CID			

FILING INSTRUCTIONS

Model Year	Group No.	TB/DRB No.
1974-1975	4.000	TB-8
1976	4.000	TB-4
1977	4.000	TB-02
1978	Power Plant, Fuel & Exhaust Systems	DRB 8-09
1979	Power Plant, Fuel & Exhaust Systems	DRB 9-06

This is a Type E Campaign, subject to campaign procedures and involving emission-related elements which may result in non-compliance with Federal or State emissions requirements. The combined owner notification and correction reporting card for this campaign is shown in Figure 1.

The zone will provide a VIN list for each dealer with any vehicles involved. However, the campaign procedures apply to all dealers. BACSENS Campaign Kits will be at the Zone PDC's the week of October 22, 1979.

Parts can be ordered, as needed, on or after October 24, 1979.

Some 1974-1979 Jeep vehicles have defective exhaust gas recirculation (EGR) back-pressure sensor valves. (Refer to Jeep Application Chart for model year and engine displacement.) Service correction involves replacing the EGR back-pressure sensor with a newly designed sensor (regardless of sensor's present condition), performing an idle mixture adjustment on all 6-cylinder engines, and affixing a Campaign Label (8-cylinder) or a combined Campaign and 6-cylinder Lean Idle Drop Emissions Control Information Label. This service is to be performed on all vehicles, regardless of mileage returning for the recall repair.

NOTE: *THE LEAN DROP SPECIFICATION DIFFERS FROM THE SPECIFICATION IN THE SERVICE MANUAL AND ON THE EMISSIONS LABEL (6-CYLINDER ONLY). A LEAN IDLE DROP OF 50 RPM IS TO BE USED.*

NOTE: *If any portion of the EGR system has been altered or made inoperative, the vehicle is still eligible for a free replacement back-pressure sensor and 6-cylinder vehicles are also eligible for an idle mixture adjustment. Additional parts and/or labor required to make an altered system operational will be on a customer-pay basis only. If you encounter this situation, make sure customer consent is obtained before proceeding with repairs.*

The 6-cylinder kit contains a new EGR back-pressure sensor, gaskets and a combined Campaign and Lean Idle Drop Emissions Control Information Label and blue idle screw mixture limiter cap(s). The 8-cylinder kit, contains a new EGR back-pressure sensor, gaskets and a Campaign Label.

The following kits will be required: The BACSENS parts kits contain all necessary parts required to service a vehicle involved in this campaign. THE SENSOR IS NOT TO BE ORDERED SEPARATELY AS IT IS A PART OF THE BACSENS PARTS KIT.

Kit	Sensor	Year	Engine Carb.	Model	Transmission
8130500	8129586	1975	Cal. 258, IV	CJ	M
		1976	Cal. 258, IV	CJ	M, A
		1977	Cal. 258, IV	CJ	M
8130502	8129588	1976	N/Wide 258, All	CJ	A, M
			N/Wide 232, IV	CJ	M
8130505	8130392	1975	Cal. 360, 4V	J-Series	A
			Cal. 401, 4V	J-Series	A
		1976	N/Wide 304, 2V	CJ	M
			Cal. 360, 4V	J-Series	M4, A
			Cal. 401, 4V	J-Series	A
8130506	8130393	1976	N/Wide 304, 2V	CJ	A
8130508	8130395	1976	Cal. 304, 2V	CJ	M3
		1977	Cal. 304, 2V	CJ	M3
		1978	Cal. 304, 2V	CJ	M3
		1979	Cal. 304, 2V	CJ	M3
8130507	8130396	1974	Cal. 360, 2V	J-Series	A
			Cal. 360, 4V	J-Series	A
		1976	Cal. 304, 2V	CJ	A

BACSEN'S REPAIR PROCEDURE

1) Remove air cleaner.
2) Remove vacuum lines from exhaust back-pressure sensor and EGR valve.
3) Remove EGR valve, back-pressure sensor, restrictor plate (if applicable), and gaskets.
4) Manually pull EGR valve pintle off seat to ensure freedom of movement. If EGR valve pintle moves freely, proceed to step (5).
If EGR valve pintle does not move freely, clean pintle area. If pintle does not move freely after cleaning, replace EGR valve and proceed to step (6).
5) Clean EGR valve mounting surface.
6) Clean manifold, restrictor plate (if applicable), and all mating surfaces.
7) Using new gaskets, install restrictor plate (if applicable), new back-pressure sensor, and EGR valve. Tighten attaching nuts to 13 foot-pounds (17 N.m) torque.
8) Connect vacuum lines to back-pressure and EGR valve (See Figure 2-A & 2-b). If vacuum lines show signs of deterioration replace them.

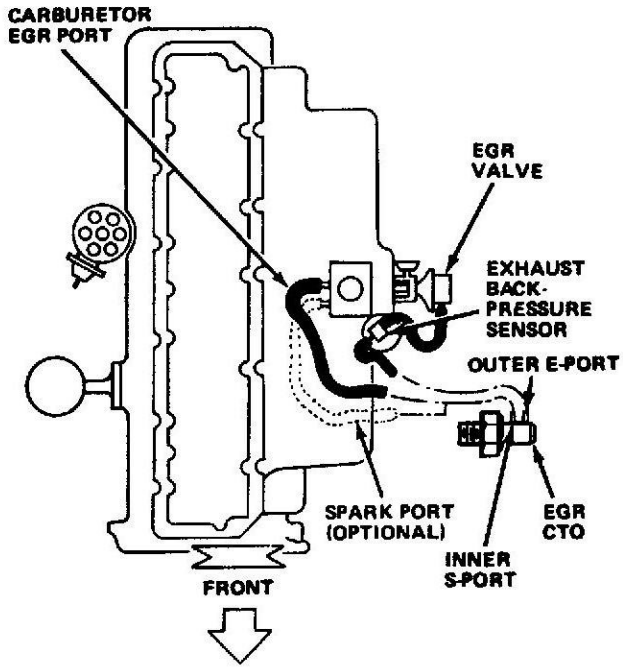
NOTE: *Vacuum line from CTO switch must be connected to back-pressure sensor nipple that has .030-inch restrictor.*

9) Install air cleaner.
10) Start engine and verify EGR valve operation (Refer to appropriate Technical Service Manual for EGR checking procedure).
11) On 8-cylinder vehicles, affix campaign label beside present underhood maintenance label (See Figure 2-b).

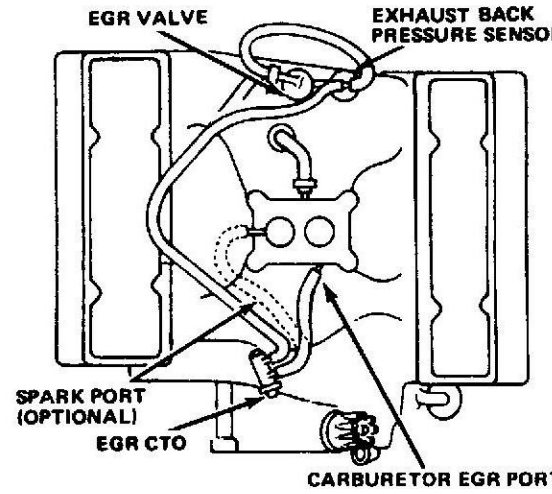
NOTE: *Type campaign number 795 and dealer code number on campaign label before affixing to vehicle. Apply clear film overlay to label.*

12) On 6-cylinder vehicles:
    a) Readjust idle mixture setting by idle drop method (new specification is 50 RPM on all 6-cylinder engines). Refer to appropriate Technical Service Manual for idle drop procedure.
    b) Install blue limiter cap(s) after 6-cylinder idle mixture adjustment.
    c) Affix combined Campaign Label and 6-Cylinder Lean Idle Drop Emissions Control Information Label beside present underhood maintenance label (See Figure 2-a).

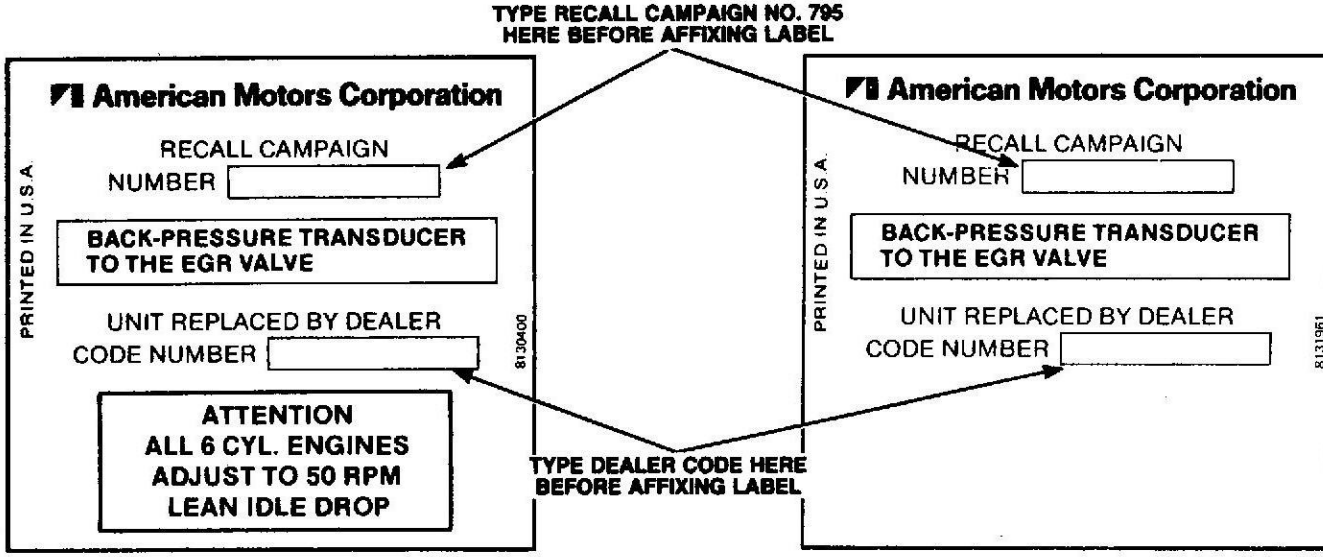
NOTE: *Type campaign number 795 and dealer code number on campaign label before affixing to vehicle. Apply clear film overlay to label.*



Vacuum Hose Routing for 6-Cylinder 42014



Vacuum Hose Routing for 8-Cylinder AJ41253



Campaign Label for 6-Cylinder Including Lean Idle Drop Emissions Control Information

Fig. 2-a

Campaign Label for 8-Cylinder

Fig. 2-b

The following operation and standard work time will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME						SKILL LEVEL
				74	75	76	77	78	79	
SENSOR EGR BACK-PRESSURE	**4.690**	**4.295**	**6-cyl**		**.4**	**.4**	**.4**			
Replace (BACSENS Campaign)			**8-cyl**	**.3**	**.3**	**.3**	**.3**	**.3**	**.3**	
Includes idle mixture adjustment on 6-cylinder and replace EGR valve and vacuum lines if required.										

Condition Code (Defect Code): 56

Several vehicles may be listed on a single warranty claim, reference Warranty Administration Manual, Section 7, Product Recall Campaigns.

The EGR Back-Pressure Sensors and the EGR's that are removed and replaced are returnable parts and must be tagged and returned with your regular claim material shipment.

Complete and mail the reporting half of the notification card (Figure 1) for each vehicle as soon as campaign service is complete.

CAUTION: *On multiple vehicle claims, do not delay any claim so that CCD will receive it beyond the time outlined in the Warranty Administration Manual.*

NOTE: *All 1977 and prior model Jeep vehicle warranty claims are eligible for a 25% parts mark-up. All 1978 and subsequent Jeep vehicle warranty claims are eligible for a 30% parts mark-up. See Warranty Bulletin 79-08 (AJ) dated 9/1/79 for details.*

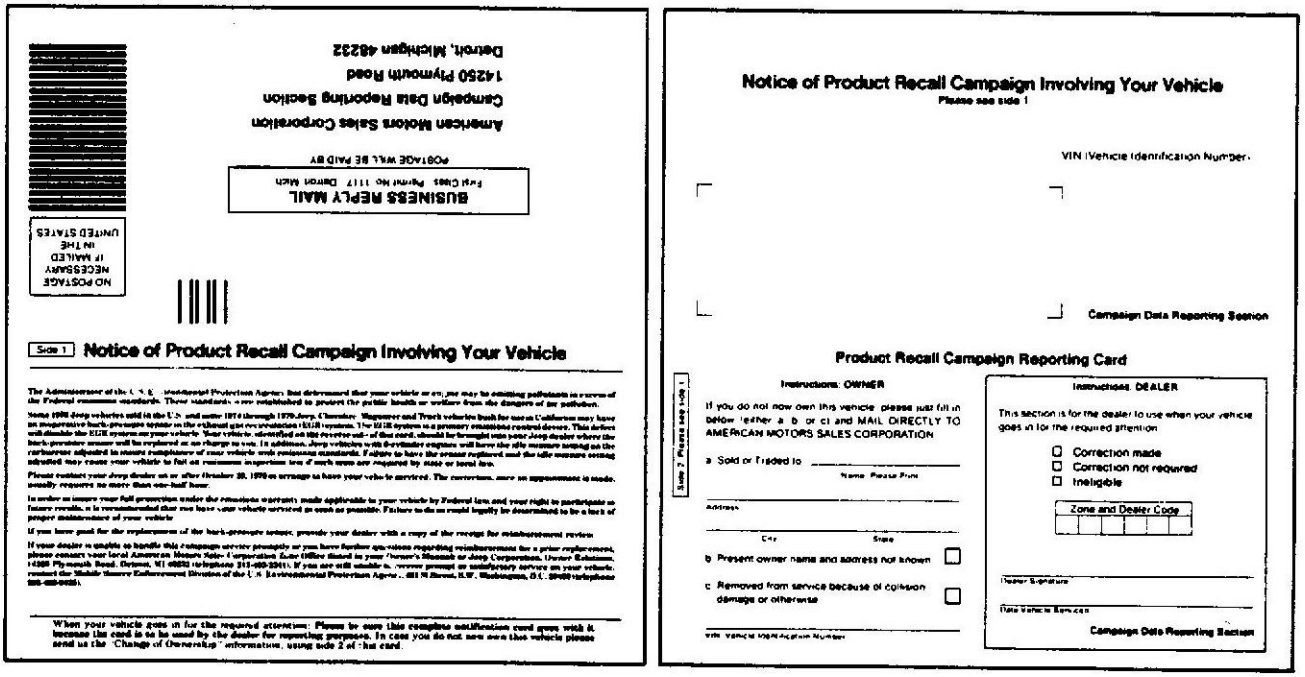


Fig. 1 - Owner Notification and Correction Reporting Card

Jeep

Diagnosis and Repair Bulletin

Subject: Servicing Fuel Tank and Vapor Control System - Expansion of Procedures in 1979 Technical Service Manual	Application: 1979 Jeep Wagoneers and Cherokees	File: POWER PLANT Fuel and Exhaust Systems No. 9-05 June 16, 1979

The purposes of this bulletin are to clarify and expand upon the procedures that already appear in the 1979 Jeep Technical Service Manual and to serve as a guide for any in-the-dealership training. Its basic goal is to help you assure careful, thorough and precise work whenever servicing the subject fuel tank and vent systems, whether after an accident or for other reasons.

Background

In the interest of the quality of ambient air, it is important to contain gasoline vapors as the fuel tank is filled and during vehicle use. The fuel tank and vapor control system of these vehicles is designed and built to permit filling at normal pump rates and to contain fuel vapors during vehicle operation. The perspective illustration below shows the basic systems for 1979 models. Any servicing of a 1979 vehicle, using the procedures in this bulletin, must be done with care and thoroughness to assure proper performance of the systems.

Direct aid, including at-the-dealership instruction if needed, is available from your Zone Service Department in order to help you get the best possible servicing results.

Basic Procedure

The basic service procedure includes:

(1) Repair or replacement of damaged parts.

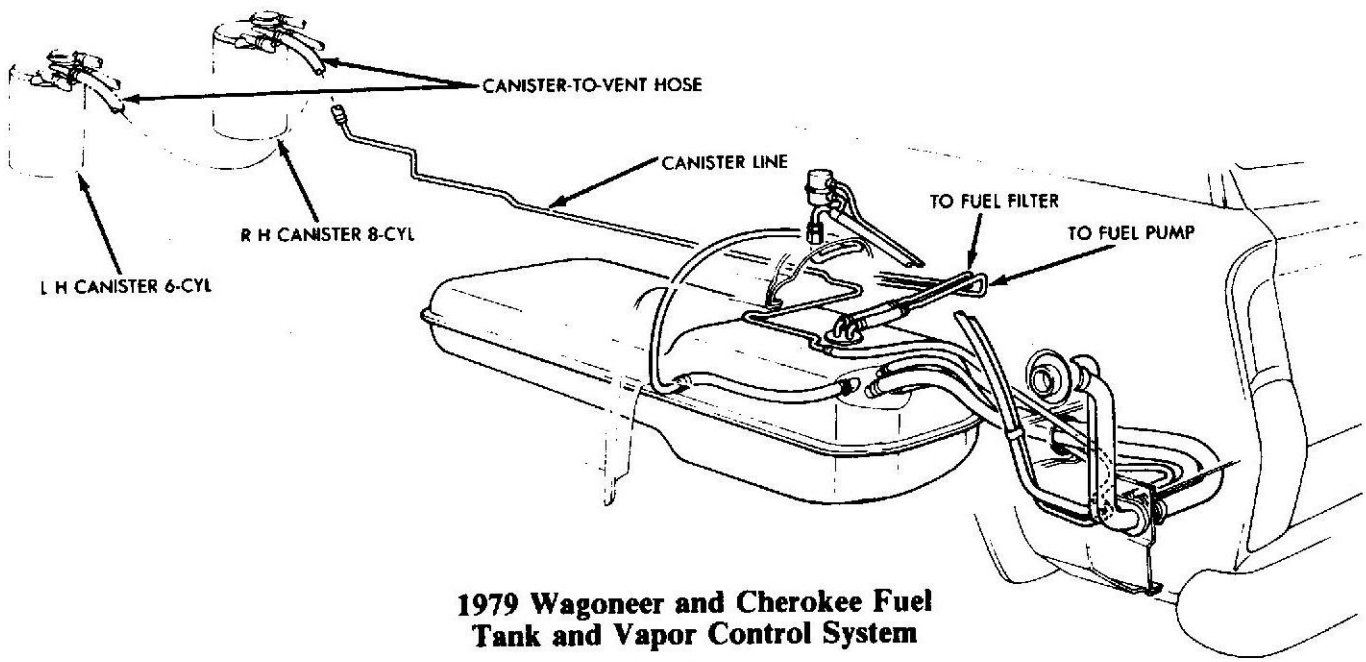
(2) Verification of the condition of all parts and connections.

(3) Final testing of the serviced system.

Repair or Replacement of Damaged Parts

In cases where collision damage has occurred, be sure that any needed repairs to the rear quarter panel, rear floorpan extension and rear wheelhouse panel have been completed. Then inspect the fuel tank and vapor control system components that attach to those pieces.

Repair of the metal components in these systems is not recommended. Straightening or rewelding metal tubes that may have been bent significantly or gouged could result in fatigue cracks and leakage. Whenever any metal part in these systems is damaged, it should be replaced rather than repaired.



1979 Wagoneer and Cherokee Fuel Tank and Vapor Control System

(OVER)

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Rubber hoses can be trimmed at the ends to assure a tight seal only if there is enough hose stock remaining to prevent the hose from being stretched during use. Hose damage at any other location would indicate the need for replacement.

Verification of Parts and Connections

The most desirable verification process is the direct test method. This procedure describes that method.

(1) Visually inspect all components for external damage and for correct assembly. Refer to the illustration for specific components and routing.

CAUTION: *Before proceeding, be sure tank is no more than 3/4 full.*

(2) Disconnect filler neck hose, filler air vent hose, tank-to-metal vent tube hose and rollover vent hose from the tank. Discard the old clamps removed from the filler neck hose and filler air vent hose.

(3) Remove the rollover check valve from the rollover vent tube assembly. Discard the rollover check valve.

(4) Disconnect the canister-to-vent hose from the "tank" fitting on the charcoal canister.

(5) Blow low pressure compressed air (2-3 psi) through the upper small steel line of the rollover vent tube assembly inside the quarter panel. Air should flow freely from the canister-to-vent hose.

(a) If air does not flow from the canister-to-vent hose or appears to be restricted, disconnect canister hose from the rollover vent tube assembly. Blow air through the upper small steel line as described previously. Air should flow freely from the steel line where the canister hose was disconnected.

If not, replace the rollover vent tube assembly, part number 5358695. If so, locate blockage in canister line. Repair or replace as necessary.

NOTE: *During this test, air should not escape through any of the other outlets of the rollover vent tube assembly. If it does, replace the rollover vent tube assembly.*

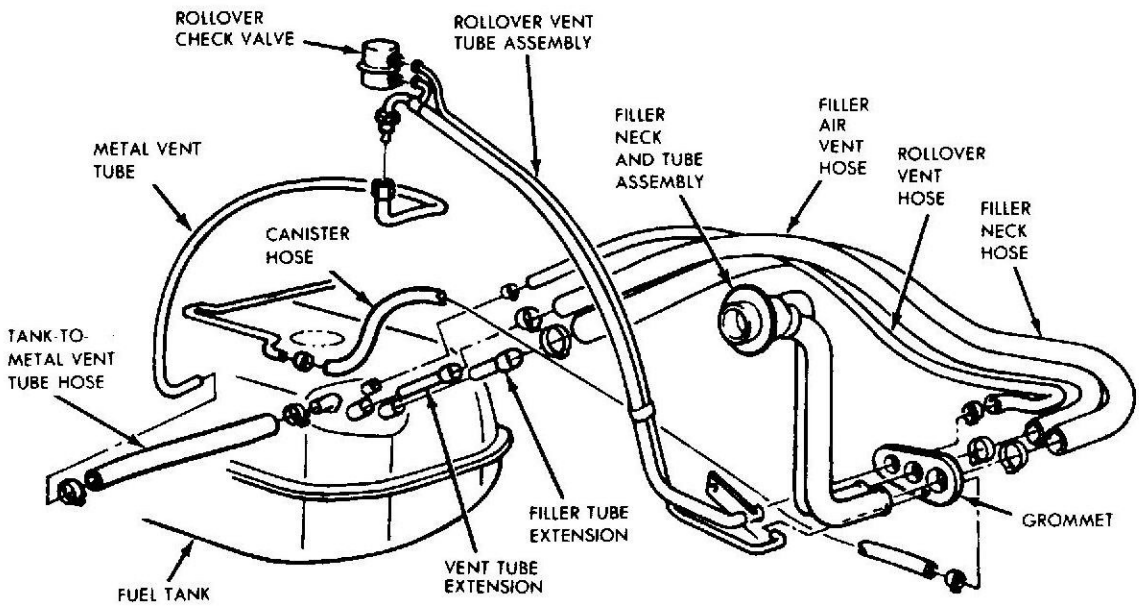
(b) If air does flow freely from canister-to-vent hose, continue with step (6).

(6) Blow low pressure compressed air through the lower small steel line of the rollover vent tube assembly. Air should flow freely from the tank-to-metal vent tube hose **and** from rollover vent hose. Repair or replace as necessary.

(a) If air does not flow from either hose, replace the rollover vent tube assembly.

(b) If air flows freely from one hose but not the other, locate the blockage in the nonflowing hose or the rollover vent tube assembly. Repair or replace as necessary.

(c) If air flows freely from both hoses, continue with step (7).



Fuel Tank and Vapor Control System Components

2

(7) Insert and securely position a new fuel tank filler tube extension, part number 5359816, into tank filler tube. Reconnect the filler neck hose to the tank. Use new hose clamp, part number 3203077.

(8) Insert and securely position a new fuel tank vent tube extension, part number 5359815, into tank vent tube. Reconnect the filler air vent hose to the tank. Use new clamp, part number 3203077.

(9) Reconnect the tank-to-metal vent tube hose and rollover vent hose to the tank.

(10) Check the routing of the filler neck, filler air vent, rollover vent and tank-to-metal vent tube hoses. Be sure that no sags are present that could act as a reservoir for liquid fuel. Reroute and trim hoses if necessary. If the filler neck hose or filler air vent hose require trimming, use new clamps, part number 3203077.

(11) Install rollover check valve. As a matter of service prudence, use a new valve, part number 5358297. Be sure the valve is positioned vertically and that the fittings are tightened securely.

(12) Confirm integrity of complete system as described in final testing.

ATTENTION PARTS DEPARTMENT: *For your convenience in parts ordering and stocking, a Venting Service Kit, part number 8130408, group 4.141, which contains 1-5359815, 1-5359816, 1-5358297 and 4-3203077, is available.*

Final Testing of Serviced System

This procedure requires the use of a manometer such as Tool J-7090-01 which is available through Kent-Moore Tool Company. In the event that you do not already have a manometer, an illustration of how to fabricate one is included with this bulletin.

(1) Disconnect the vent-to-canister hose from the "tank" fitting of the canister if connected. Connect the hose to the manometer input.

(2) Disconnect the fuel return line from the fuel filter in the engine compartment. Plug the filter fitting to prevent fuel flow from the filter, connect air pump to fuel return line.

(3) Use a bicycle tire pump (suggested maximum size - 15 inches long x 1 inch diameter) to pressurize the system to 1.10 inches of mercury or until the column of water is 15 inches higher than the zero pressure condition (usually about 30 strokes on the pump). If system pressurization is not indicated by the manometer, check the system for kinked, blocked, or disconnected hoses.

NOTE: *Do not pressurize the fuel system to more than 3 inches of mercury (41.5 inches of water, 1.5 psi).*

(4) Apply a soapy water solution to every tube and hose connection in the system. Check each joint for air leaks (bubbles). Repair as necessary.

(5) Disconnect the tank-to-metal vent tube hose from the metal vent tube. Plug the hose and tube with rubber plugs, cork or similar item. Again, pressurize the system as described in step (3). If system pressurization is not indicated by the manometer, recheck the system for kinked or disconnected hoses. If the system does pressurize, continue with step (6).

(6) Remove the plugs from the tank-to-metal vent tube hose and the metal vent tube. Reconnect the hose to the tube.

(7) Pinch the rollover vent hose about one inch away from the rollover vent tube assembly. Pressurize the system as described in step (3). If system pressurization is not indicated by the manometer, the rubber hoses are assembled incorrectly or the metal vent tube is plugged. Repair or replace as necessary.

(8) Disconnect the manometer. Reconnect the vent-to-canister hose to the "tank" fitting of the canister.

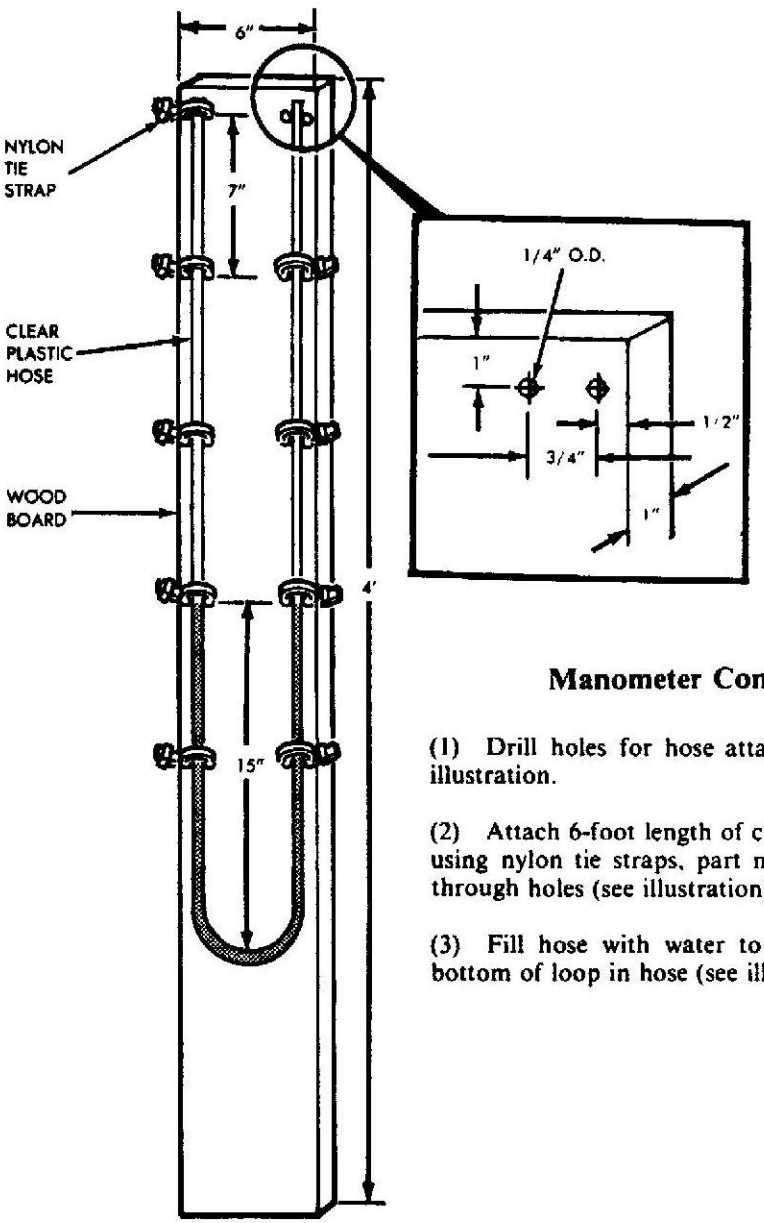
(9) Disconnect the tire pump from the fuel return line. Unplug the filter fitting and reconnect the return line to the filter.

Availability of Aid From Zone Service Department

As usual, if it appears that additional clarification or direct, in-the-dealership aid would enhance your own efforts, contact your District Service Manager who will answer questions or schedule any needed training.

The following operations and standard work times will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
FUEL TANK/VENT SYSTEM — VERIFY PARTS, AND CONNECTIONS ..... Includes Final Testing	**4.155**	**4017**	**WAG-CKE**			**1.0***	**P**
Tube assembly, rollover vent — Replace	**4.143**	**A**				**0.2**	
*Includes 3 minutes helper time.							



Manometer Construction

(1) Drill holes for hose attachment as shown in the illustration.

(2) Attach 6-foot length of clear plastic hose to board using nylon tie straps, part number 3223227, inserted through holes (see illustration).

(3) Fill hose with water to a point 15 inches from bottom of loop in hose (see illustration).

Jeep

Diagnosis and Repair Bulletin

Subject: Left Rear Quarter Panel Rattle	Application: 1978-79 Wagoneer and Cherokee Models	File: POWER PLANT Fuel & Exhaust Systems No. 9-04 May 19, 1979

Some 1978-79 Wagoneer or Cherokee models may have a rattle in the left rear quarter panel area.

This may be caused by movement of internal check ball and ramp inside the rollover check valve.

Service correction involves wrapping the exterior of the rollover check valve with vinyl insulation.

The following part is available and required:

Description	Quantity	Part No.	Group No.
INSULATION	1	3693126	13.440

PROCEDURE

(1) Open tailgate.

(2) If equipped with inside-mounted spare, remove spare from carrier and remove carrier.

(3) Remove inside rear quarter panel trim.

(4) Cut insulation into strips approximately 2 inches x 9½ inches (save any remaining for repair on another vehicle).

(5) Completely wrap rollover valve with two insulation strips.

NOTE: *Upon completion of the wrapping operation, be sure the rollover valve female fitting is perpendicular to the floorpan of the vehicle.*

(6) Install quarter panel trim.

(7) Install spare tire carrier and tire if equipped.

(8) Close tailgate.

The following operations and standard work times will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
VALVE, ROLLOVER — INSULATE	4.165	4201	CKE-WAG		0.2	0.2	G
Inside mounted spare tire — R & R	4.165	A			0.2	0.2	G

9-079-BSJ

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Diagnosis and Repair Bulletin

Subject: Inaccurate Fuel Gauge Reading at Empty Caused by Incorrect Gas Tank Sending Unit Calibration	Application: 1979 Cherokee and Wagoneer Models	File: POWER PLANT Fuel and Exhaust System No. 9-03 April 30, 1979

The fuel gauge in some 1979 Cherokee and Wagoneer models may indicate empty when the tank still contains between four and five gallons of fuel. This condition may be the result of an inaccurate fuel tank sending unit.

Service correction involves removing the fuel tank from the vehicle, removing the sending unit from the fuel tank and reshaping the sending unit lever arm to correspond with the attached template. Any sending unit found with previous rework should be discarded and replaced.

Before proceeding to the repair procedure, verify the accuracy of the fuel gauge by using the DARS charts on page 1L-8 of the 1979 Technical Service Manual. If tests indicate inaccuracy in the sending unit, proceed to the repair procedure. If tests indicate inaccuracy in the fuel gauge, refer to page 1L-5 of the 1979 Technical Service Manual for fuel gauge replacement procedure.

REPAIR PROCEDURE

(1) Remove fuel tank as described in 1979 Technical Service manual.

(2) Remove sending unit.

(3) Check sending unit with an ohmmeter for continuity through resistor for normal resistance change as lever is moved through its full arc of travel.

(a) If sending unit is electrically faulty, replace it.

(b) If sending unit is electrically accurate, proceed to step (4).

(4) Reshape sending unit lever to correspond with attached template.

(5) Install sending unit in tank.

(6) Install fuel tank as described in 1979 Technical Service Manual.

The following operation and standard work time will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
SENDING UNIT, FUEL TANK — DIAGNOSIS..	3.614	4197	CKE-WAG			0.2	G
Sending unit — Remove, Adjust, and Install	3.614	A	CKE-WAG			0.9	G
With skid plate — Add						0.3	
Sending unit — Replace.....	3.614	B	CKE-WAG			0.9	G
With skid plate — Add						0.3	G
NOTE: *Combination A and B cannot be used together. Both include drain, R & R and refill fuel tank as required.*							

9-081-03J

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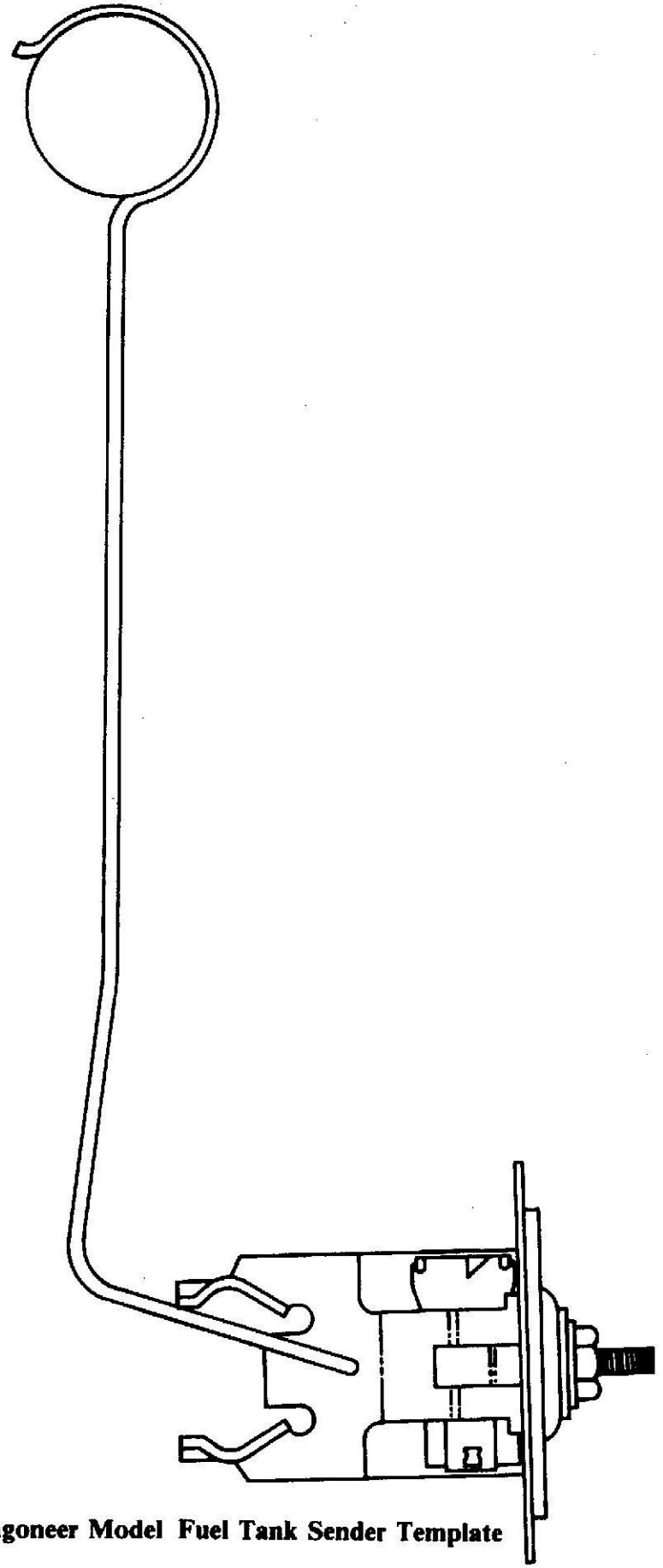

1979 Cherokee and Wagoneer Model Fuel Tank Sender Template

Jeep

Diagnosis and Repair Bulletin

Subject: Warm Engine Operation — Supplement to Diagnosis and Repair Bulletin No. 9-01, Dated November 10, 1978	Application: Some 1979 Jeep Models Built Before J9X15XX047200 and J9X25XX042459 Equipped with 360-2V Engine and Automatic Transmission Except Model 46 Trucks (J-20)	File: POWER PLANT Fuel and Exhaust Systems No. 9-02 January 25, 1979

Some 1979 Jeep vehicles with a 360-2V engine and automatic transmission were built with an optional component location of the EGR CTO and spark CTO switches. These components and their locations were referred to in the subject bulletin and parts kit instruction sheet, I-1446.

On vehicles with the optional component location, the EGR CTO switch (a two-port switch) is on the intake manifold and the spark CTO switch is on the thermostat housing.

If visual inspection indicates that the vehicle is built as described above, perform the DRB/I-sheet procedure except as follows:

- The EGR CTO switch that you should "lay aside for later installation" in step (6) is the two-port switch.

- In step (8), the spark CTO switch is a three-port CTO switch and must be discarded. The new spark CTO switch provided in the kit must be used.

9-025-04Jc

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Diagnosis and Repair Bulletin

Subject: Warm Engine Driveability	Application: All 1979 Jeep Vehicles Equipped with 360-2V Engines and Automatic Transmissions Except Model 46 Truck (J-20)	File: POWER PLANT Fuel and Exhaust Systems No. 9-01 November 10, 1978

Some of the subject vehicles may have any of several engine-related driveability conditions reported after the initial engine warm-up. These conditions may have many descriptions all relating to less than smooth, acceptable operation.

Engine-related driveability conditions may be corrected by adjusting ignition timing and carburetor settings to the specifications listed in the 1979 Jeep Technical Service Manual.

If this does not fully remedy the reported condition, install the following kit which will be available on November 20, 1978. Do not order parts before this date.

Description	Quantity	Part No.	Group
Kit, EGR and Spark Control	1	8130406	4.700

This kit consists of the following parts:

Description	Quantity	Part No.
E.G.R. Valve	1	3233596
Orifice Plate	1	3234775
Switch, CTO	1	3229450 or 3216448
Valve, Vacuum Delay (Brown and White)	1	3235939
Valve, Vacuum Delay (Purple and Black)	1	3236284
Tee, Heater Nipple & EGR CTO	1	G 444150
Gaskets	2	3221283
Pipe Plug	1	G 444660
Label, Emission Control Maintenance, California	1	5359782
Hose, 0.157 ID x 63.0" Long	1	8130407
Instruction Sheet	1	I-1446

PROCEDURE

(1) Open EGR and Spark Control Kit and remove 63-inch length of hose. Cut hose into following lengths:

Hose Length	Quantity
2" ± 1/8"	3
10" ± 1/8"	1
21" ± 1/8"	1
24" ± 1/8"	1

CAUTION: *Do not substitute hose lengths, hose size (0.157-inch I.D.) or hose routing when performing this procedure. Correct automatic transmission shift operation is dependent on proper vacuum signals at the vacuum modulator. All emission and spark control devices must be as specified and operational. Incorrect vacuum hose lengths, hose routings or non-operational emission related devices will cause a change in the required vacuum signal at the automatic transmission modulator and cause damage to the transmission.*

(2) Drain coolant from radiator.

(3) Remove air cleaner.

(4) Remove original EGR valve and orifice plate.

(5) Install new EGR valve and orifice plate with new gaskets (fig. 1).

(6) Remove EGR CTO switch from thermostat housing and lay aside for later installation.

(7) Install 3/8-inch pipe plug in thermostat housing in place of original EGR CTO switch (fig. 1).

(8) Remove original spark control CTO switch from intake manifold and discard.

NOTE: *For wrench and CTO switch turning clearance, it may be necessary to disconnect the fuel line from the carburetor and loosen the upper air conditioning compressor bracket.*

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(9) Install new spark control CTO switch in right front corner of intake manifold (fig. 1).

NOTE: *Connect fuel line to carburetor if disconnected in step (8) and tighten upper air conditioning compressor bracket (if equipped).*

(10) Disconnect heater hose from heater hose nipple located on right rear of intake manifold.

(11) Remove vacuum fittings at right rear of intake manifold to provide turning clearance for heater hose nipple.

(12) Remove transmission filler tube to engine bolt and move filler tube to provide turning clearance for heater hose nipple.

(13) Remove heater hose nipple from right rear corner of intake manifold.

(14) Install heater nipple and EGR CTO switch tee fitting in right rear corner of intake manifold (fig. 1).

(15) Install heater hose nipple in tee fitting.

(16) Install EGR CTO switch in tee fitting (fig. 1). Connect heater hose to nipple.

(17) Install vacuum fittings in right rear corner of intake manifold.

(18) Return transmission filler tube to original position and install retaining bolt.

(19) Remove original vacuum check valve and hoses between spark CTO switch and vacuum tee fitting.

(20) Install vacuum delay valve (brown and white) in vacuum circuit between spark CTO port (1) and vacuum source. Use 2-inch and 10-inch lengths of vacuum hose (fig. 1).

NOTE: *The vacuum delay valve must be installed with the white side installed toward the vacuum source.*

(21) Connect 21-inch long vacuum hose to spark CTO center port (D) and distributor vacuum advance (fig. 1).

(22) Connect existing hose from carburetor spark port to spark CTO switch number (2) port (fig. 1).

(23) Install delay valve (purple and black) in EGR CTO vacuum circuit between CTO switch port (E) and existing vacuum tee at EGR valve. Use two, 2-inch lengths of vacuum hose (fig. 1).

NOTE: *Install vacuum delay valve with black side toward the EGR CTO switch.*

(24) Connect port (S) on EGR CTO switch to EGR port on carburetor. Use 24-inch length of vacuum hose (fig. 1).

(25) Move accelerator pump rod to number (4) hole in overtravel lever (fig. 2).

(26) Carefully scribe letter "J" on carburetor identification tag located on left front corner of carburetor to identify pump rod modification.

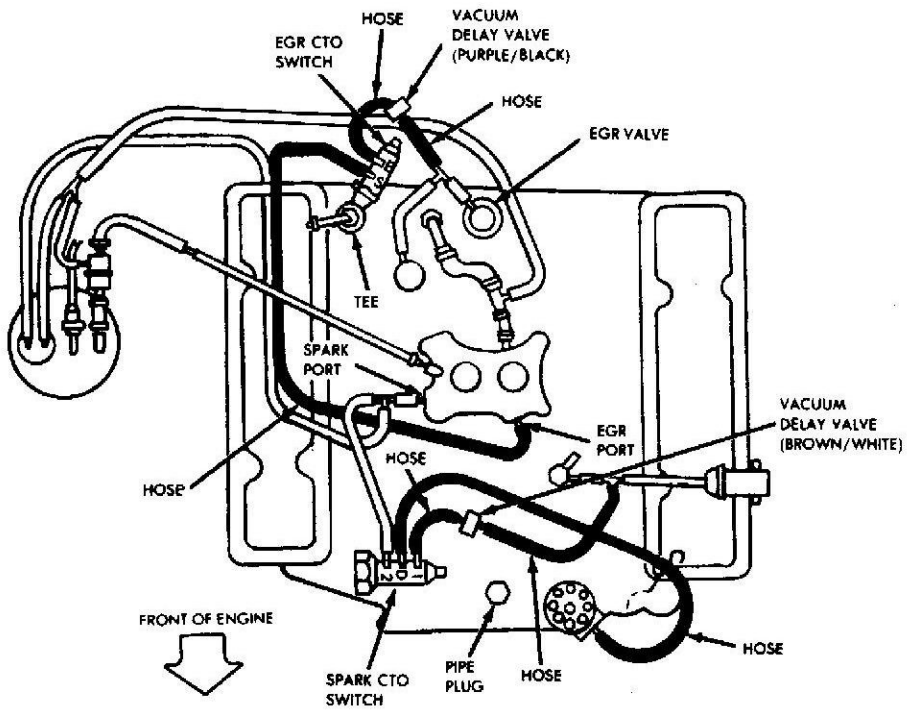

Fig. 1 Hose Routing

(27) Install air cleaner.

(28) Fill radiator with coolant.

(29) Check operation of engine and check for coolant leaks.

(30) Install new emission control label on California vehicles only.

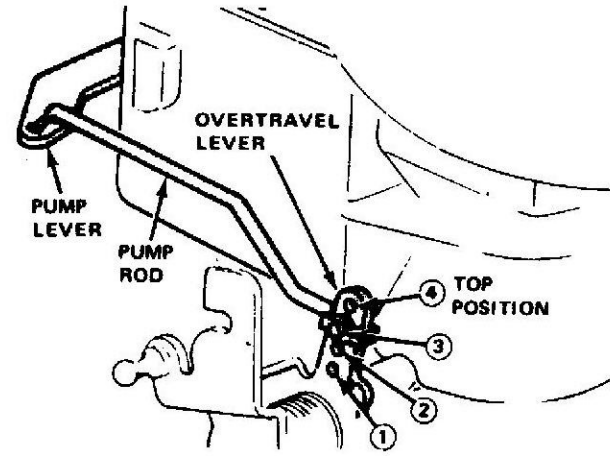

Fig. 2 Accelerator Pump Stroke Adjustment

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
KIT, EGR AND SPARK CONTROL — INSTALL	**4.701**	**4291**	**15,16,17,18,25,45**	—	—	**1.0**	**G**

9-025-04J

Jeep

Diagnosis and Repair Bulletin

Subject: Improved Procedures for Clutch Overcenter Spring and Clutch Pedal Replacement	Application: 1977-79 CJ Models	File: CHASSIS Clutch - Manual Transmission Group 6.000 No. 9-02 July 18, 1979

Improved procedures for replacing the clutch overcenter spring and clutch pedal on CJ Models have been developed. They supersede the procedures outlined in the 1977-79 Jeep Technical Service Manuals. The new procedures are as follows:

PROCEDURES

Clutch Overcenter Spring Replacement

(1) Remove windshield washer hose grommet from engine compartment side of dash panel (see illustration).

(2) Feed 3-foot long double strand of mechanics wire through grommet hole. Wrap wire around end of clutch pedal overcenter spring and feed wire back out of grommet hole. Twist ends of wire together securely to form loop.

(3) Insert 2 x 4 board through looped end of wire. Position second 2 x 4 board against dash panel to pry against.

CAUTION: *Be sure the 2 x 4 boards do not contact any of the brakelines during overcenter spring removal or installation.*

(4) Position bottom end of 2 x 4 board inserted in looped end of wire against 2 x 4 on dash panel and pull back on board to release clutch overcenter spring from clutch pedal.

(5) Disconnect overcenter spring from brake pedal support bracket (under instrument panel).

(6) Connect replacement overcenter spring to brake pedal support bracket.

(7) Install mechanics wire on overcenter spring and position spring on lower portion of clutch pedal.

(8) Pull 2 x 4 board (with wire wrapped around it) forward until overcenter spring slides into and seats in pedal slot.

NOTE: *As the spring is pulled forward, it will ride along the pedal edge until it seats in the pedal slot.*

(9) Remove boards and mechanics wire.

(10) Install windshield washer hose grommet in dash panel.

(11) Check and adjust clutch pedal free play if necessary.

Clutch Pedal Replacement

(1) Disconnect clutch pedal push rod at bellcrank.

(2) Disconnect battery negative cable.

(3) Remove fuse panel attaching screws and remove fuse panel.

(4) Remove windshield washer hose grommet from dash panel (see illustration).

(5) Feed 3-foot long double strand of mechanics wire through windshield washer grommet hole. Wrap wire around end of clutch overcenter spring and feed wire back out through grommet hole. Twist wire ends together securely to form loop.

(6) Insert 2 x 4 board through looped end of wire. Position second 2 x 4 board against dash panel to pry against.

CAUTION: *Be sure the 2 x 4 boards do not contact any of the brakelines during overcenter spring removal.*

(7) Position bottom end of 2 x 4 board inserted in looped end of wire against 2 x 4 on dash panel and pull back on board to release clutch overcenter spring from clutch pedal.

(8) Remove snap ring on end of pedal shaft and remove clutch pedal from shaft.

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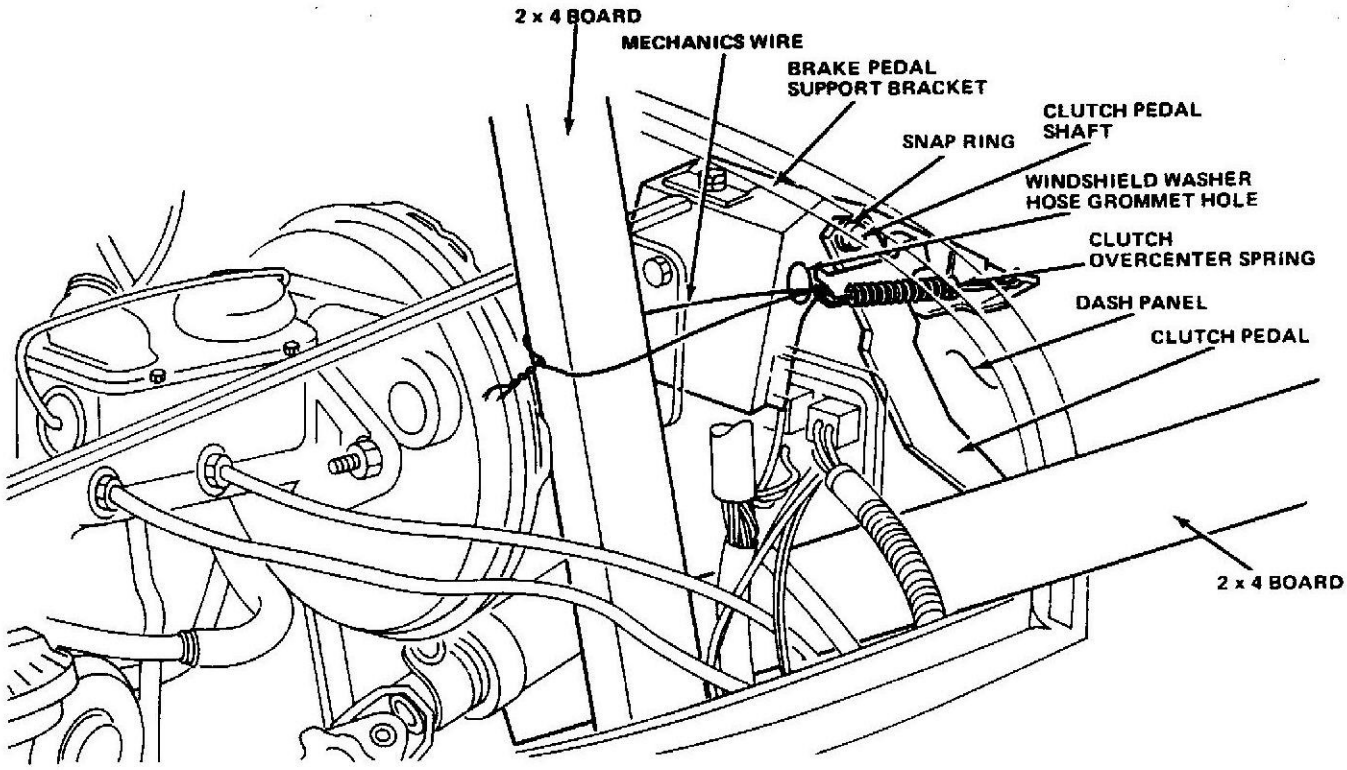

CLUTCH OVERCENTER SPRING INSTALLATION

(9) Install replacement clutch pedal on shaft and install snap ring.

(10) Install fuse panel.

(11) Connect clutch pedal push rod to bellcrank.

(12) Position overcenter spring-end on brake pedal support bracket.

(13) Pull forward on 2 x 4 board until overcenter spring slides into and seats in pedal slot.

NOTE: *As the spring is pulled forward, it will ride along the pedal edge and snap into the pedal slot.*

(14) Remove mechanics wire and 2 x 4 boards.

(15) Install windshield washer hose grommet in dash panel.

(16) Connect battery negative cable.

(17) Check and adjust clutch pedal free play if necessary.

The following operations and standard work times will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
PEDAL, CLUTCH—REPLACE.	5.135	5006	83-93	.4	.4	.4	G
SPRING, CLUTCH OVERCENTER—REPLACE	5.973	5010	83-93	.3	.3	.3	G

9-100-05J

Jeep

PRODUCT RECALL CAMPAIGN
Diagnosis and Repair Bulletin No. 9-01

Subject:

CJTRANS Campaign (Type S Product Recall Campaign): Vehicle May Have Incorrect Transmission-to-Transfer Case Gasket

Date: **June 6, 1979**

Application: **1979 CJ-5 and CJ-7 Models Equipped with Manual Transmission as Specified Below**

File: **CHASSIS, Clutch—Manual Transmission**

This is a Type "S" Product Recall Campaign subject to all campaign procedures and involving safety-related elements. A copy of the combined owner notification and correction reporting card for this campaign is shown in Figure (2).

Some 1979 Jeep CJ-5 and CJ-7 model vehicles equipped with 3-speed or 4-speed manual transmissions built between VIN's J9F93EC067887 and J9F83AC098774 may have an incorrect transmission-to-transfer case gasket.

On three-speed transmissions the incorrect gasket will prevent lubricant interflow between the transmission and transfer case. This condition can result in the gradual transfer of transmission lubricant into the transfer case. On four-speed transmissions the incorrect gasket will allow lubricant to leak directly out of the transmission. If lubricant transfer or leakage occurs, the transmission will eventually become damaged and inoperative.

Service correction involves inspecting the transmission-to-transfer case gasket on all vehicles involved and replacing it with the following correct part if necessary. Refer to the Gasket Inspection Procedure.

Under separate cover, the Zone should have already provided a VIN list to each dealer with vehicles involved. However, the campaign procedures apply to all dealers. On each undelivered campaign involved vehicle, the inspection/correction must be made before the vehicle is sold or otherwise put in service.

The following parts may be required and are available from your local PDC.

Description	Qty.	Part Number	Group	Dealer Net
Gasket, transfer case to transmission (with 3-speed transmission)	1	5359022	18.001	.35
Gasket, transfer case to transmission (with 4-speed transmission)	1	936615	6.053	.35

INSPECTION PROCEDURE

(1) Look inside vehicle to determine whether vehicle is equipped with 3-speed or 4-speed manual transmission.

(2) Raise vehicle.

(3) Inspect transmission-to-transfer case gasket. Inspection area is junction of forward face of transfer case and side of transmission (3-speed) or transmission adapter (4-speed), on passenger side of vehicle. Use work light or flashlight to view inspection area clearly. This inspection area is shaded in Figure (1).

(a) With *3-speed transmission,* the entire shaded area in illustration should be covered by transfer case-to-transmission gasket material. If the inspection area is completely covered by gasket material, the correct gasket is in place and no further work is necessary. If gasket material is not visible in the inspection area, the incorrect gasket may have been installed, and the transfer case-to-transmission gasket must be replaced with the correct gasket, part number 5359022.

(b) With 4-speed transmissions, transfer case-to-transmission adapter gasket material *should*

not be visible in the inspection area. If gasket material is not visible, the correct gasket is in place and no further work is necessary. If the entire inspection area is completely covered by gasket material, the transfer case-to-transmission adapter gasket must be replaced. Use gasket part number 936615.

(c) If correct gasket is in place, lower vehicle and return to owner. If incorrect gasket was installed, replace gasket. Refer to gasket replacement procedure.

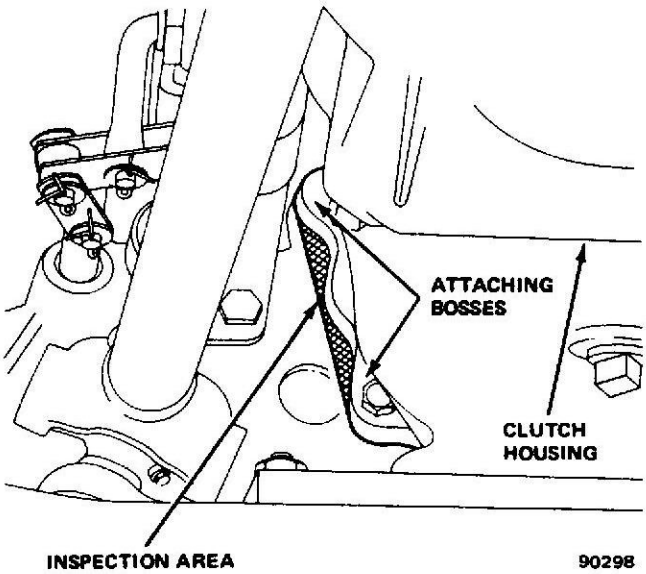

Fig. (1) Inspection Area

GASKET REPLACEMENT PROCEDURE

REMOVAL

(1) Remove transfer case shift knob, trim ring, and boot.

(2) Remove front floor carpeting.

(3) Remove transmission access cover plate from floorpan.

(4) Raise vehicle.

(5) Drain lubricant from transfer case. Install drain plug when case is emptied of lubricant.

(6) Disconnect torque reaction bracket from rear crossmember.

(7) Position support stand under clutch housing to support engine and transmission.

(8) Remove rear crossmember.

(9) Disconnect front and rear propeller shafts at transfer case. Mark position of shaft yokes for assembly reference.

(10) Disconnect speedometer cable at transfer case.

(11) Remove bolts attaching transfer case to transmission and remove transfer case.

(12) Remove and discard transfer case-to-transmission gasket.

INSTALLATION

(1) Clean gasket surfaces of transmission and transfer case thoroughly.

(2) Position correct (replacement) transfer case-to-transmission gasket on transmission.

(3) Install transfer case on transmission and install transfer case attaching bolts. Tighten bolts to 30 foot-pounds (41 N.m) torque.

(4) Connect front and rear propeller shafts to transfer case. Be sure to align shafts and yokes using reference marks made during removal. Tighten shaft-to-yoke clamp strap nuts to 15 foot-pounds (20 N.m) torque.

(5) Connect speedometer cable.

(6) Position rear crossmember on frame rails and loosely install two crossmember bolts to hold crossmember in place.

(7) Align rear support cushion studs in rear crossmember and install stud nuts and washers.

(8) Connect torque reaction bracket to rear crossmember and install remaining crossmember attaching bolts.

(9) Remove engine support stand.

(10) Fill transmission and transfer case to level of fill holes with 80W-90 or SAE 90 gear lubricant.

(11) Lower vehicle.

(12) Install transmission access cover plate on floorpan.

(13) Install carpeting on front floor.

(14) Install transfer case shift lever boot, trim ring, and knob.

The following operation and standard work time will apply:

Operation Description	Warranty Reporting Code	Operation Number	Model	Year and Time			Skill Level
				77	78	79	
Gasket, Transfer Case-to-Transmission/Adapter — Inspect	**18.003**	**18003**	**83-93**	–		**0.1**	**G**
Gasket, Transfer Case-to-Transmission/Adapter — Replace	**18.004**	**A**	**3-Spd**	–	–	**1.1**	**G**
			4-Spd	–	–	**1.3**	**G**

Applicable Defect Code: 56
Product Recall Campaign

CLAIM HANDLING

Several vehicles may be listed on a single warranty claim, reference Warranty Administration Manual, Section 7, Product Recall Campaigns.

Complete and mail the reporting half of the notification card (Fig. 2) for each vehicle as soon as campaign service is complete.

CAUTION: *On multiple-vehicle claims, do not delay any claim so that CCD will receive it beyond the time limit outlined in the Warranty Administration Manual.*

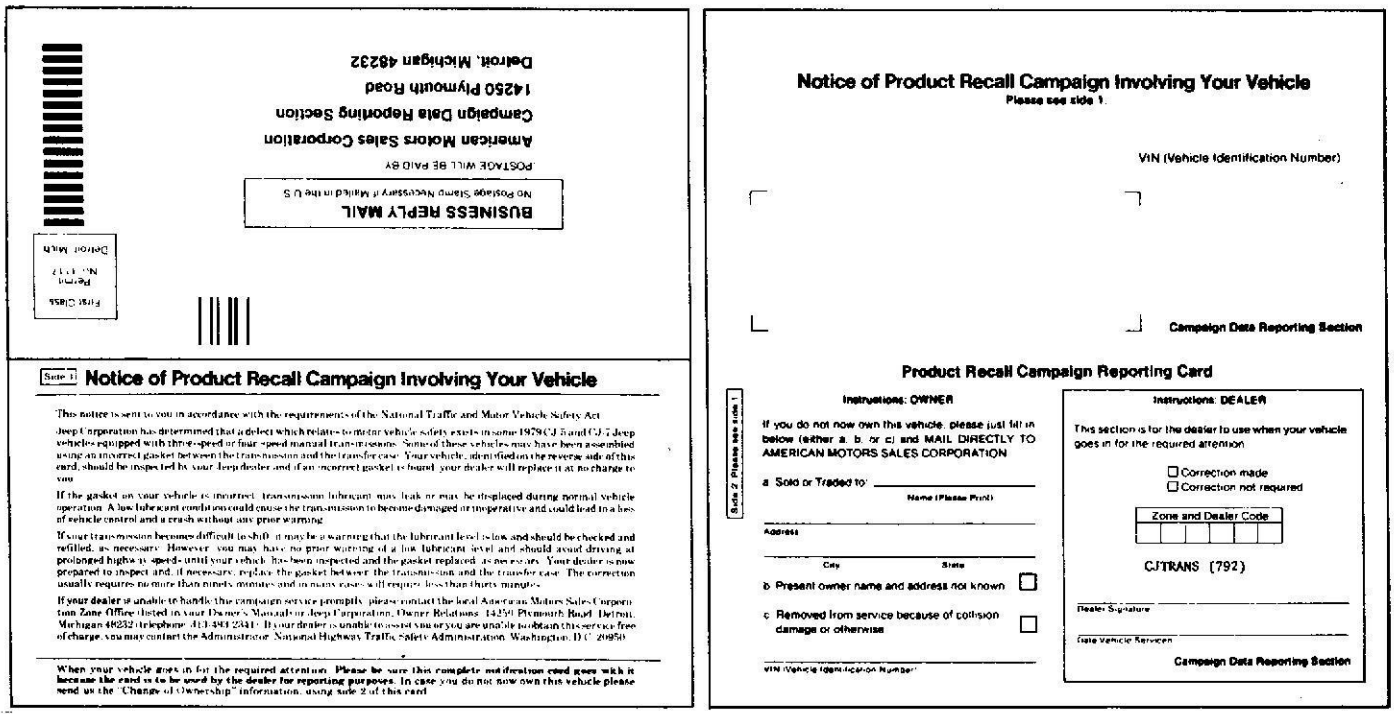

Fig. 2 Owner Notification and Correction Reporting Card

Jeep

Diagnosis and Repair Bulletin

Subject: New Automatic Transmission Forward Clutch, Direct Clutch and Oil Pump Assemblies	Application: 1979 Jeep Models with Automatic Transmission	File: CHASSIS Automatic Transmission No. 9-03 May 10, 1979

The forward clutch, direct clutch and oil pump assemblies used in 1979 Jeep automatic transmissions have been changed. The new components were phased into production beginning with the transmission serial numbers listed in the Transmission Identification Chart.

The forward and direct clutch changes include a new forward clutch piston and an increase in the number of steel and composition plates used in both clutches. In addition, a new thicker 0.0915 inch (2.33 mm) flat steel plate is used for both clutch applications. To accommodate the increased clutch plate usage, the waved steel plate was deleted from both clutch assemblies. Refer to the Clutch Plate Application Chart for clutch plate usage.

The oil pump assembly has a new pressure regulator booster valve, valve bushing and spring. These new components provide an increase in transmission operating pressure of approximately 10 psi (69 kPa). The pressure increase is required for effective operation of the new higher capacity clutch assemblies.

Although the new components can be used in 1979 transmissions built prior to the listed serial numbers, the following precautions must be observed.

When servicing the forward or direct clutch, discard the original waved steel plate and assemble the clutch using the exact number of steel and composition plates specified in the Clutch Plate Application Chart. In addition, when servicing the forward clutch, discard the original clutch piston and replace it with the new part listed below.

When servicing the oil pump, discard the original oil pump pressure regulator booster valve, valve bushing and pressure regulator spring and replace them with the new parts listed below.

The following parts are available and required:

Description	Quantity	Part No.	Group No.
PISTON, Forward Clutch	1	8130416	6.595-3
BUSHING and Valve, Transmission Pressure Regulator Booster	1	8131698	6.512-1
SPRING, Transmission Pressure Regulator	1	8131699	6.512-3

TRANSMISSION IDENTIFICATION CHART

Model	Application	Serial Number
400 JC	Six-Cylinder CJ-5 and 7	3177
400 JS	Eight-Cylinder CJ-5 and 7	4217
400 JM	Cherokee-Wagoneer	22388
400 JK	Six-Cylinder J-10 Truck	2078
400 JR	Eight-Cylinder J-10, J-20 Truck	5056

CLUTCH PLATE APPLICATION CHART

	Forward Clutch		Direct Clutch	
	Flat* Steel Plates (Driven)	Composition Plates (Drive)	Flat* Steel Plates (Driven)	Composition Plates (Drive)
400 JC	5	5	4	4
400 JS	5	5	4	4
400 JM	5	5	5	5
400 JK	5	5	4	4
400 JR	5	5	5	5

* Flat Steel Plates are all .0915-inch (2.33 mm) thick.

The Standard Servicing Operations and work times as published in the current SSO Manual are not affected by this bulletin.

9-072-05J

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Jeep

Diagnosis and Repair Bulletin

Subject: Fluid Overflow From Automatic Transmission Fill Tube or Vent Tube Caused by Overfill or Vent Tube Restriction	Application: 1977-79 Jeep Models with Automatic Transmission	File: CHASSIS Automatic Trans. Group 7.000 No. 9-02 April 30, 1979

On some 1977-79 Jeep models with automatic transmission, fluid may overflow from the transmission fill tube or vent tube.

Service correction involves verifying the overflow condition, inspecting the vent tube for restrictions, checking the fluid level and calibrating the transmission dipstick if necessary.

PROCEDURE

(1) Inspect transmission fill tube and vent tube for evidence of fluid overflow.

(a) If tubes do not have evidence of overflow, return vehicle to owner.

(b) If tubes exhibit evidence of overflow, proceed to next step.

(2) Check transmission vent tube for restriction by inserting length of stiff wire into tube.

(a) If tube is restricted, repair as necessary and return vehicle to owner.

(b) If tube is not restricted, proceed to next step.

(3) Check transmission fluid level as outlined in appropriate Jeep Technical Service Manual. If fluid level is incorrect, adjust to proper level and road test vehicle with owner.

(a) If overflow does not occur during road test, return vehicle to owner.

(b) If overflow does occur during road test, proceed to step (4).

NOTE: *If an overflow condition occurs only when towing a trailer, the road test must be conducted with the trailer in tow.*

(4) Raise vehicle on hoist. Loosen vacuum modulator adapter retainer bolt. Pull modulator outward approximately 1/2 to 1-inch and drain one pint of fluid from transmission. Seat modulator and tighten modulator attaching bolt after draining fluid. Lower vehicle and road test to verify correction.

(5) Check fluid level again and file new mark on transmission dipstick at adjusted fluid level.

The following operation and standard work time will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
OVERFLOW, AUTOMATIC TRANSMISSION—DIAGNOSE AND CORRECT	16.022	16205		0.8	0.8	0.8	G

9-063-17J

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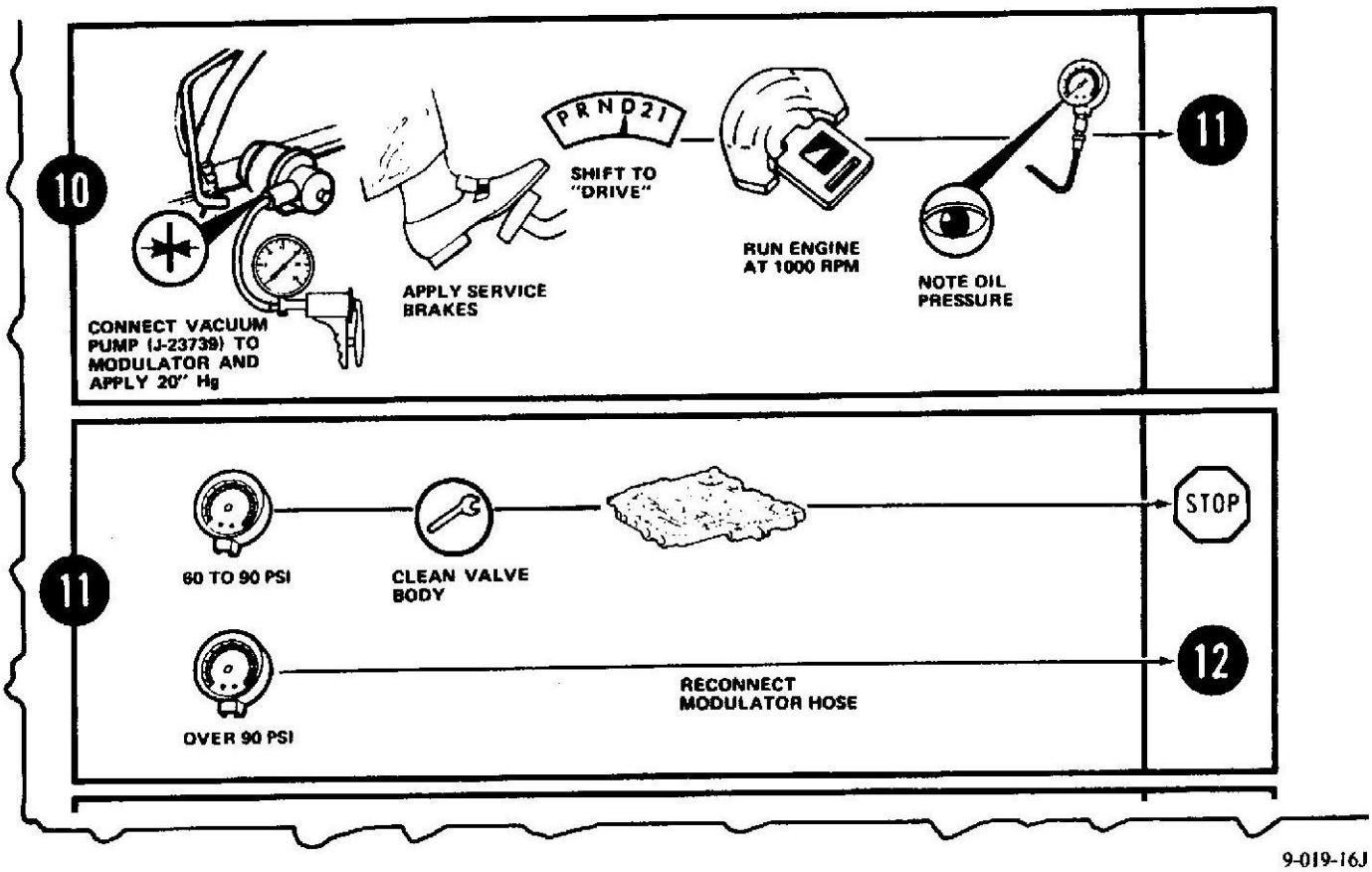
Jeep

Diagnosis and Repair Bulletin

Subject: 1979 Jeep Technical Service Manual Correction - Automatic Transmission DARS Chart	Application: All 1979 Jeep Models with Automatic Transmission	File: CHASSIS - Automatic Transmission No. 9-01 October 27, 1978

The DARS Chart on page 2C-15 of the 1979 Jeep Technical Service Manual needs to have the instructions and illustrations revised as follows:



9-019-16J

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Jeep

Diagnosis and Repair Bulletin

Subject: Improved Stick-Slip Correction Procedure	Application: 1973-79 Jeep Vehicles With Quadra-Trac Transfer Case	File: CHASSIS Transfer Case/ Quadra-Trac No. 9-01 Jan. 12, 1981

This bulletin supercedes Technical Bulletins Number 2, 7600 Series, Number 5, 7500 Series, Number 6, 7400 Series, and Number 13, 7300 Series, Group 18.000, dated February 9, 1976. Remove and destroy these bulletins and replace them with this current bulletin.

The Quadra-Trac transfer case in some 1973-79 Jeep vehicles may develop a low frequency pulsating grunting, or rasping noise that occurs when cornering at slow speed or when parking the vehicle. This noise may occur if the Quadra-Trac differential brake cones tend to stick then release suddenly or release at different torque values. This condition is referred to as stick-slip.

To counteract this condition, a new Quadra-Trac lubricant has been developed to correct stick-slip. When the new lubricant is used, a transfer case remote vent kit must also be installed. Because water adversely affects performance of the new lubricant, the vent kit must be used to prevent water entry and lubricant contamination.

Service correction involves checking tire pressures, sizes, and types, draining and refilling the transfer case with the following new lubricant, and installing a remote vent kit on the transfer case if required.

NOTE: *The new Quadra-Trac lubricant is intended for use in vehicles exhibiting stick-slip. For vehicles that do not exhibit stick-slip, the current Quadra-Trac lubricant, part number 5358652, remains the normal replacement lubricant.*

The following parts are available and required.

Description	Quantity	Part No.	Group
LUBRICANT, Quadra-Trac	AR	8130444	18.500
STRAP, Tie	AR	3223227	3.165
KIT, Vent	1	8130445	18.500
Kit Contents:			
Vent Tube	1		
Vent Tube Clip	4		
Vent Tube Fitting	1		
Vent Tube Hose	1		

PROCEDURE

(1) Inspect vehicle tires. Tires must all be same size, type, make, and tread design. Correct if necessary.

(2) Check and correct tire inflation pressures if necessary. All tires must be inflated to recommended pressures and not vary by more than 1/2 to 1 psi (3.45 to 6.895 kPa).

(3) Raise hood and raise vehicle on hoist.

(4) Check transfer case lubricant level. If level is low, inspect for leaks and correct as necessary.

(5) Inspect transfer case vent. If transfer case is equipped with remote vent tube that is routed into engine compartment, proceed to step (8). If transfer case does not have remote vent tube, proceed to steps (6) and (7) for vent kit installation.

(6) On CJ models, install remote vent kit as follows:

(a) Clean vent area and remove and discard original vent tube fitting.

(b) Apply silicone sealant to threads of replacement vent tube fitting and install fitting on transfer case.

(c) Cover straight end of vent tube with tape.

(d) Insert straight end of vent tube upward above crossmember and to rear of transfer case. Rotate curved end of tube upward and position it between dash panel and engine. Remove tape from straight end of tube.

(e) Cut and connect four-inch length of vent tube hose to vent tube fitting and vent tube.

CAUTION: *The hose must be securely connected to the fitting and tube to prevent water from entering the transfer case and contaminating the lubricant.*

(f) Secure lower (straight) end of vent tube to Quadra-Trac Emergency Drive vacuum tube using S-clip provided in kit and proceed to step (8).

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(7) On Cherokee, Wagoneer, and Truck models, install remote vent kit as follows:

(a) Clean vent area and remove and discard original vent tube fitting.

(b) Apply silicone sealant to threads of replacement vent tube fitting and install fitting on transfer case.

(c) Lower vehicle.

(d) Cover straight end of vent tube with tape.

(e) Insert straight end of vent tube downward between engine and dash panel. Position lower (straight) end of tube to rear of transfer case and upper (curved) end next to vacuum modulator vacuum tube.

(f) Secure upper curved end of vent tube to vacuum modulator vacuum line using tie strap.

(g) Close hood and raise vehicle.

(h) Cut and connect four-inch length of vent hose to vent tube fitting and vent tube.

CAUTION: *The hose must be securely connected to the fitting and tube to prevent water from entering the transfer case and contaminating the lubricant.*

(i) Secure vent tube to transmission filler tube and Quadra-Trac Emergency Drive vacuum tube using tie straps and proceed to step (8).

(8) Position drain pan under transfer case, remove drain and fill plugs from transfer case and allow unit to drain completely. If transfer case is equipped with reduction unit, loosen reduction unit attaching bolts, pull unit forward and allow lubricant to drain from reduction unit.

(9) Install and tighten transfer case drain plug to 20 foot-pounds (27 N·m) torque. If equipped with reduction unit, seat unit in transfer case and tighten reduction unit attaching bolts. Tighten 3/8-16 bolts 20 foot-pounds (27 N·m) torque. Tighten 5/16-18 bolts to 9 foot-pounds (12 N·m) torque.

(10) Fill transfer case and reduction unit, if equipped, with new Quadra-Trac lubricant. Transfer case requires two quarts (1.9 liters) of lubricant. Reduction unit requires one pint, if equipped.

NOTE: *Shake the Quadra-Trac lubricant container vigorously before filling the transfer case. It is important that the lubricant be mixed thoroughly before use.*

(11) Install and tighten transfer case fill plug to 20 foot-pounds (27 N·m) torque.

(12) Lower vehicle.

(13) On CJ models, secure upper (curved) end of vent tube to vacuum modulator vacuum tube using tie strap and close hood.

(14) Drive vehicle in circles both clockwise and counterclockwise for approximately 15 minutes to circulate lubricant throughout transfer case.

CAUTION: *Do not turn to or hold the steering wheel at the stop position when driving the vehicle in circles.*

The following standard servicing operations and work times will apply:

OPERATION DESCRIPTION	COST CODE	OPERATION NUMBER	MODEL	YEAR AND TIME	SKILL LEVEL
				1973-1979	
STICK-SLIP, QUADRA-TRAC — CORRECT Includes lubricant change and 15 minute driving time	**18.670**	**18395**	**Cke-Wag Trk-CJ-7**	**0.6**	**G**
With reduction unit — Add				**0.2**	
Vent Kit — Install	**18.670**	**A**		**0.3**	**G**

9-122-18J

Jeep

PRODUCT RECALL CAMPAIGN
Diagnosis and Repair Bulletin No. 80-3

SAFETY

Subject: JEEPAXLE (Type "S" Product Recall Campaign) Rear Wheel Bearing Retainers and Seals May Have Been Assembled Improperly.

Date: **June 19, 1980**
Application: **1979-80 Jeep Cherokee, Wagoneer and J-10 Trucks**
File: **CHASSIS-Prop. Shaft-Axles**

This is a Type "S" Product Recall Campaign subject to all campaign procedures and involving safety-related elements.

Some 1979 and 1980 Jeep Cherokee, Wagoneer and J-10 Truck models equipped with the AMC/Jeep rear axle built between 1979 VIN numbers J9A18NN069283 and J9F45NC154704 and 1980 VIN numbers J0E18NN000048 and J0D45NN024993 may have rear wheel bearing retainers and seals on some of the subject models which may have been assembled improperly during production. This condition could result in wheel bearing damage and possible disengagement of the wheel and axle shaft from the axle while the vehicle is in motion.

Service correction involves an inspection to determine what type of axle (Dana or AMC/Jeep) is in the vehicle and replacement of *BOTH* right and left rear wheel bearings, seals, retainer rings, and retainer plates on AMC/Jeep axles.

The following parts kit is required:

NOTE: *Each vehicle will require TWO kits.*

Description	Qty.	Part No.	Group	Price
KIT, Rear Wheel Bearing	2	8130510	8.300	$13.40

KIT Contents: inner oil seal, retaining ring, wheel bearing, outer seal, retainer plate

The Zone will provide a VIN list and an initial supply of parts equal to 40% of the vehicles on your VIN list for each dealer with any vehicles involved. However, the campaign procedures apply to all dealers. On all undelivered, campaign-involved vehicles, the correction must be made before the vehicle is sold or otherwise put in service.

Additional parts can be ordered, as needed, on or after July 7, 1980. Because campaign parts supplies are limited, replacement rear wheel bearing kits are not to be ordered for dealer stock!

INSPECTION PROCEDURE

(1) Raise and support vehicle.

(2) Inspect rear axle housing cover to determine what type of axle is in vehicle.

(a) If axle has round, dome shaped cover (Fig. 1), vehicle has AMC/Jeep axle and will require repair if campaign identification mark is not present. Place campaign-inspection identification paint mark on cover (Fig. 1) and proceed to repair procedure.

(b) If axle has oval, irregular shaped cover (Fig. 1), vehicle has Dana axle and does not require any repairs.

(3) Lower vehicle.

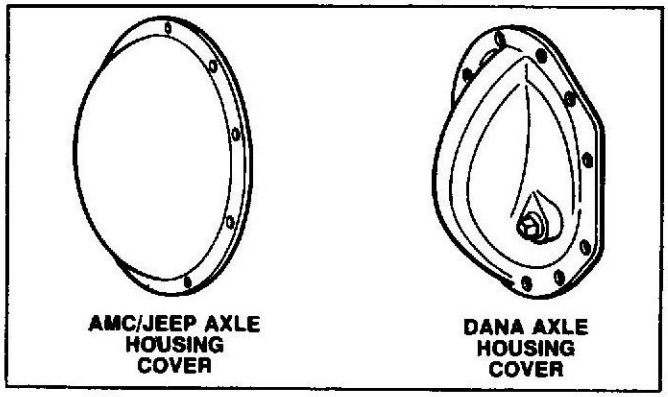


Fig. 1 Axle Housing Cover Identification

JEEPAXLE REPAIR PROCEDURE

Axle Shaft and Bearing Removal

(1) Raise and support vehicle and remove rear wheels.

(2) Remove rear brake drums.

NOTE: *Make sure that the brake linings are kept free of grease and oil.*

(3) Remove nuts attaching brake support plates and retainers to axle tube flanges. Nuts are accessible through holes in axle shaft flanges.

(4) Remove axle shafts using Adapter Tool J-21579 and Slide Hammer J-2619-01 (See Fig. 2).

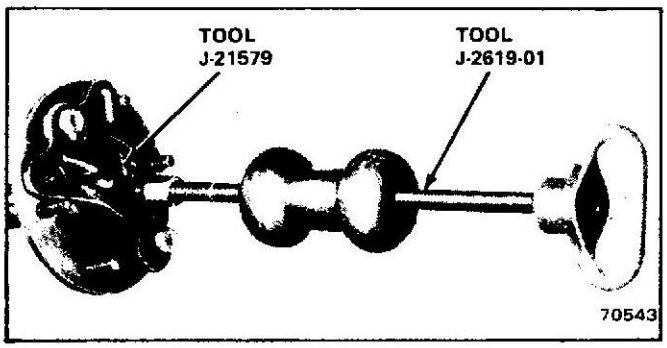


Fig. 2 Axle Shaft Removal — Cherokee-Wagoneer-J-10 Truck

(5) If cup portion of wheel bearing assembly remains in the axle housing after the axle shafts are removed, remove the bearing cups using tools J-2619-01 and J-26941.

(6) Remove axle shaft inner oil seals from axle housing tubes.

Axle Shaft Bearing Replacement

CAUTION: *Under no circumstance should the axle shaft retaining ring or bearing be removed using a torch. Heat will transfer into the axle shaft bearing journal and weaken it.*

(1) Mount axle shaft in vise. Use protective jaws on vise to avoid scratching or damaging shaft.

(2) Drill ¼-in. (6mm) diameter hole in retaining ring. Hole depth should be approximately three-fourths of ring thickness.

CAUTION: *Do not allow drill to contact the axle shaft.*

(3) Position a chisel over the drilled hole in the retaining ring and cut a deep groove in the retaining ring with the chisel. This will enlarge or split the ring allowing the ring to be removed from the axle shaft (See Fig. 3).

(4) Slide retaining plate and oil seal toward axle shaft flange to provide room for bearing removal tool between seal and bearing.

(5) Remove axle shaft bearing using arbor press and tool J-22912-01 or J-23674 (See Fig. 4).

(6) Inspect axle shaft bearing and seal surfaces for scratches. Remove scratches using crocus cloth.

(7) Install retainer plate on axle shaft.

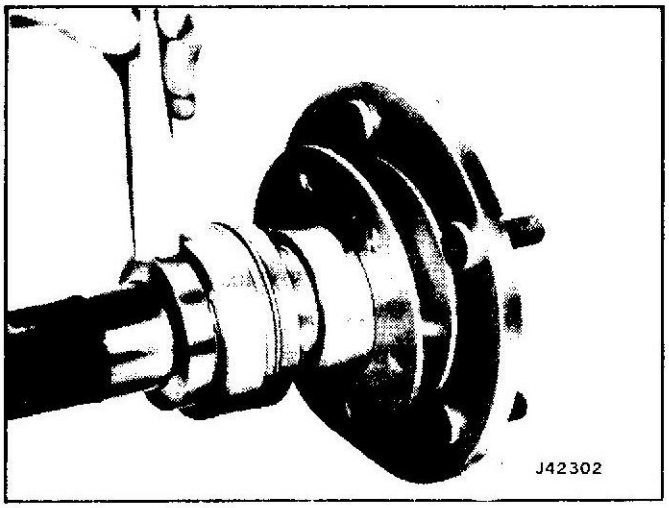


Fig. 3 Notching Bearing Retaining Ring — Cherokee-Wagoneer-J-10 Truck Axle

(8) Pack wheel bearing lubricant in cavity of replacement oil seal and between seal lips and install seal on axle shaft seat. Outer face of seal must face axle shaft flange.

NOTE: *In order to prevent damaging the seal, it is important that the seal lips be lubricated before installation and that the seal lips contact the machined portion of the shaft only.*

(9) Pack replacement wheel bearing with wheel bearing lubricant. Force lubricant through cup rib ring end until it comes out at other end, around bearing.

(10) Install wheel bearing on axle shaft. Be sure cup rib ring is facing axle shaft flange.

(11) Install bearing retainer ring on axle shaft.

(12) Press bearing and retainer ring on axle shaft simultaneously using tool J-22192-01 or J-23674 and

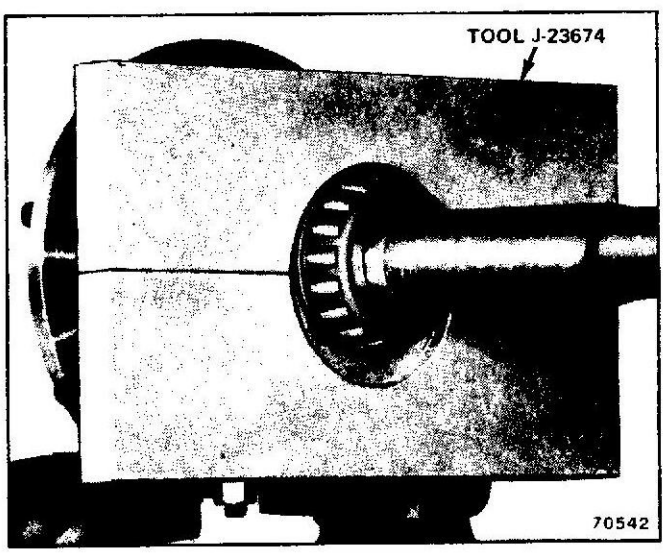


Fig. 4 Axle Shaft Bearing Removal — Cherokee-Wagoneer-J-10 Truck Axle

arbor press. Be sure bearing and retainer ring are properly seated (squarely) against axle shaft shoulder.

NOTE: *When the seal and bearing seat against each other, some lubricant should be forced out of the other side of the bearing.*

Axle Shaft and Bearing Installation

(1) Clean inner oil seal and bearing bores in axle housing tube and install replacement inner seal using tool J-25135-01, then apply wheel bearing lubricant to seal and to bottom one-third of cavity between seal and bearing bore shoulder.

(2) Apply thin coating of wheel bearing lubricant to outside diameter of wheel bearing cup and outer oil seal.

CAUTION: *Take care to avoid damaging the oil seal when installing the shaft.*

(3) Insert splined end of shaft into differential side gears and start cup rib rings and seals into axle tube.

(4) Align retainer plate and bolts and push axle shaft into housing as far as possible. Install nuts on bolts finger tight only.

NOTE: *The outer oil seal must be squarely seated against the bearing.*

(5) Tighten all nuts alternately and evenly in a cross pattern (Fig. 5) to approximately 15 foot-pounds (20 N.m.) torque to seal and cup rib ring evenly in axle tube.

CAUTON: *This procedure is necessary to ensure that the seal and bearing cup rib ring are seated squarely in the axle tube. The seal can be damaged if this procedure is not followed.*

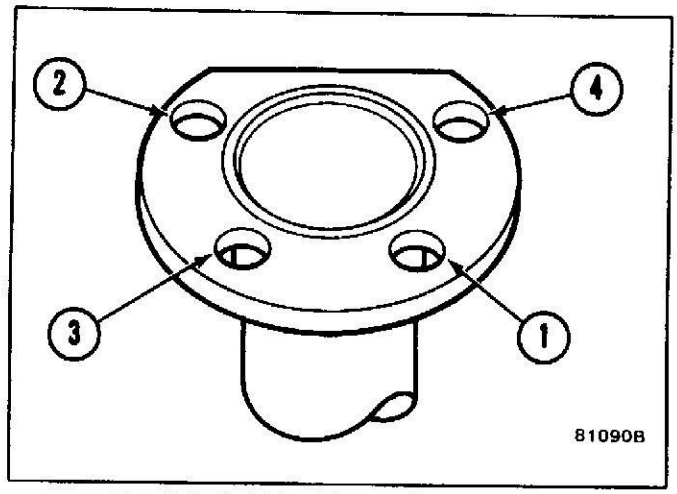


Fig. 5 Axle Tube Flange Bolt and Nut Tightening Sequence

(6) Tighten nuts to final torque of 50 foot-pounds (68 N.m) torque in a cross pattern (Fig. 5).

(7) Install rear brake drum, locknuts and wheels. Tighten rear wheel nuts to 72 foot-pounds (98 N.m.) torque.

(8) Remove supports and lower vehicle.

The following operation and standard work time will apply:

OPERATION DESCRIPTION	ALPHA SERVICE CODE FOR CLAIM	MODEL	YEAR & TIME -79-	-80-	SKILL LEVEL
REAR AXLE — Inspect & Identify (Includes Drive-in/Drive out)	**A**	**Wag-Che Truck**	**0.1**	**0.1**	**G**
BEARINGS, REAR AXLE SHAFT — Replace both sides (includes inspection and Drive-in/Drive-out)	**B**		**1.4**	**1.4**	**G**

CLAIM HANDLING & CAMPAIGN REPORTING

Owners of record will be mailed the AMC and Jeep combined Product Recall Campaign Notice and Claim Form (Fig. 6). This form is to be used in place of a warranty claim and a campaign reporting card.

This Product Recall Campaign Notice and Claim Form is a six-page form that is pre-printed with the customer's name and address and the campaign name and number. The entire form will be mailed to the owner of record along with a cover letter outlining the defect and instructions to present the complete form to the dealer at the time the vehicle is serviced.

The six copies are:

Cover Sheet: contains instructions for the owner and shows the dealer where to imprint his dealer plate.

CCD Copy: to be submitted to CCD for campaign reporting and crediting.

Factory Copy: to be used as a packing copy for returnable parts when required.

Dealer Accounting/Dealer Service/Owner File Copy: this copy is for the dealer file.

Customer Copy: to be given to the customer as a record of the campaign service performed.

Reply Card: to be used by the owner if ownership or address has changed.

Upon presentation of this form by an owner, the dealer should:

- Imprint the combined notice and claim form in the upper right hand corner with his dealer plate and remove the cover sheet.
- Complete the header information boxes.
- Have the owner sign the form on the owner signature line.
- Perform the required campaign service as outlined in the DRB.
- Complete the form by entering the R.O. date, mileage and placing an X in the appropriate alpha code box indicating the campaign service which was performed. (The alpha code, which takes the place of the cost code and operation number, can be found on page 3 of this DRB.)
- Sign the form in the area provided and mail the CCD copy to CCD in Milwaukee.

NOTE: *Do not make out a separate warranty claim. The new form is the warranty claim.*

In the event the owner misplaces or neglects to bring in the campaign notice and claim form, the dealer should use a blank Campaign Notice and Claim Form. A small supply is included with this DRB. Should you need more forms, they are available from your Zone Service Department.

Before providing campaign services for a vehicle where the owner fails to present the campaign notice and claim form, the dealer must check the Vehicle Identification Number (VIN) against his Campaign VIN List or the total campaign VIN range contained in the Campaign DRB to ensure the vehicle is eligible to receive campaign services.

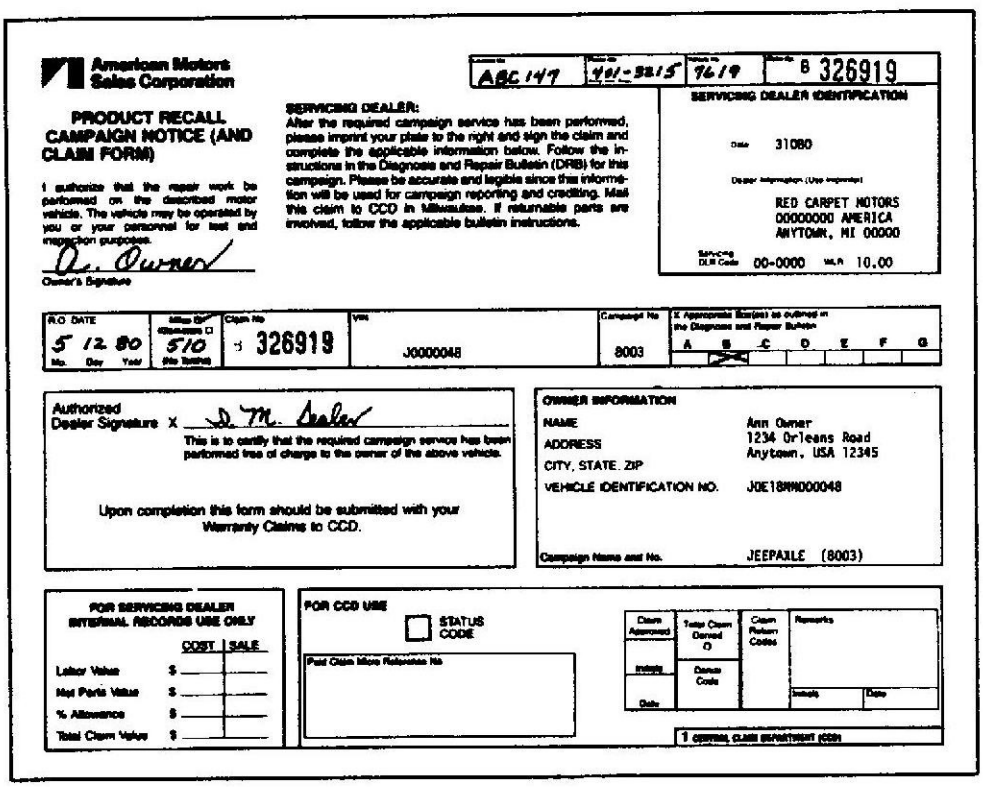
When using a blank form, be sure to enter the owner's name and address, VIN, Zone PDC and Dealer Code, campaign name or number, date of compliance and dealer's signature in the areas provided and X the appropriate service box as outlined in the Diagnosis and Repair Bulletin.

Based on the alpha box checked, the dealer will automatically be credited on the mid or end-of-month memorandum of warranty transactions (code 40) referencing the claim number on the form. The single credit shown will include Drive-in/Drive-out, corresponding labor, parts cost and applicable parts mark-up.

Although it will no longer be necessary for the dealer to enter the parts and labor costs for processing of the recall claim, the dealer may wish to complete the internal records box in the lower left hand corner of the claim. The figure shown in this box should be entered on the dealer's claim register along with the claim number.

Starting with this JEEPAXLE Campaign, it will no longer be necessary to complete a warranty claim form and a campaign reporting card after servicing an AMC or Jeep vehicle involved in a product recall campaign.

PLEASE NOTE: *All prior campaign claims will continue to be handled as in the past.*


American Motors Sales Corporation

ABC 147 | 191-3815 | 7619 | B 326919

PRODUCT RECALL CAMPAIGN NOTICE (AND CLAIM FORM)

SERVICING DEALER:
After the required campaign service has been performed, please imprint your plate to the right and sign the claim and complete the applicable information below. Follow the instructions in the Diagnosis and Repair Bulletin (DRB) for this campaign. Please be accurate and legible since this information will be used for campaign reporting and crediting. Mail this claim to CCD in Milwaukee. If returnable parts are involved, follow the applicable bulletin instructions.

I authorize that the repair work be performed on the described motor vehicle. The vehicle may be operated by you or your personnel for test and inspection purposes.
A. Owner
Owner's Signature

SERVICING DEALER IDENTIFICATION
Date 31080
RED CARPET MOTORS
00000000 AMERICA
ANYTOWN, MI 00000
Servicing DLR Code 00-0000 M.H. 10.00

R.O. DATE	Miles Or Allowance	Claim No	VIN	Campaign No	X Appropriate Box(es) as outlined in the Diagnosis and Repair Bulletin
5 12 80 (Mo. Day Year)	510	B 326919	J0000048	8003	A B C D E F G

Authorized Dealer Signature X D. M. Dealer
This is to certify that the required campaign service has been performed free of charge to the owner of the above vehicle.

Upon completion this form should be submitted with your Warranty Claims to CCD.

OWNER INFORMATION
NAME Ann Owner
ADDRESS 1234 Orleans Road
CITY, STATE, ZIP Anytown, USA 12345
VEHICLE IDENTIFICATION NO. J0E18RN000048
Campaign Name and No. JEEPAXLE (8003)

FOR SERVICING DEALER INTERNAL RECORDS USE ONLY

	COST	SALE
Labor Value	$	
Net Parts Value	$	
% Allowance	$	
Total Claim Value	$	

FOR CCD USE
STATUS CODE
Paid Claim Mileo Reference No.

Claim Approved | Total Claim Earned $0 | Claim Reject Codes | Remarks
Initials | Dealer Code | Initials | Date
Date

1 CENTRAL CLAIM DEPARTMENT (CCD)

Fig. 6 Sample Completed Combined Product Recall Campaign Notice and Claim Form

NOTE: *This sample claim represents inspection and replacement of the rear axle shaft bearings. An inspection only would be alpha code A.*

Jeep

PRODUCT RECALL CAMPAIGN
Diagnosis and Repair Bulletin No. 80-2

Subject: SAFETY (Type "S" Product Recall Campaign) Propeller Shaft Joint to Yoke Attaching Bolts and Clamps

Date: May 27, 1980

Application: 1979 and 1980 Jeep CJs

File: CHASSIS — Axle and Prop Shaft

This is a Type "S" campaign subject to all campaign procedures and involving safety-related elements.

Some 1979 Jeep CJ models built between VIN J9M83AC849545 and J9M83AC851591 and 1980 Jeep CJ models built between VIN J0M93AH700384 and J0M83AC701781 may have been assembled with other than specified universal joint to yoke attaching clamps and bolts. As a result, these bolts may not hold torque due to interference between the bolthead flange and the clamp. This could result in the loosening of the bolts, uncoupling of the propeller shaft U-joints and yokes and loss of drive to the front and/or rear wheels.

Service correction involves inspecting the subject vehicles for the proper universal joint to yoke clamps and bolts and replacing the substandard components. Refer to the Inspection Procedure.

The Zone will provide a VIN list to each dealer with vehicles involved. However, the campaign procedures apply to all dealers. On all undelivered campaign-involved vehicles, the inspection/correction must be made before the vehicle is sold or otherwise put in service.

The parts required for this campaign have already been shipped to all dealers on a no-charge basis. Each dealer has received bolts and clamps for every vehicle on his VIN list. Additional parts may be ordered as needed from your Zone Parts Distribution Center.

The following parts may be required:

Description	Qty.	Part No.	Group
BOLT, Propeller Shaft to Yoke	A/R	4006363	9.100
CLAMP, Propeller Shaft to Yoke	A/R	3235473	9.100

INSPECTION PROCEDURE

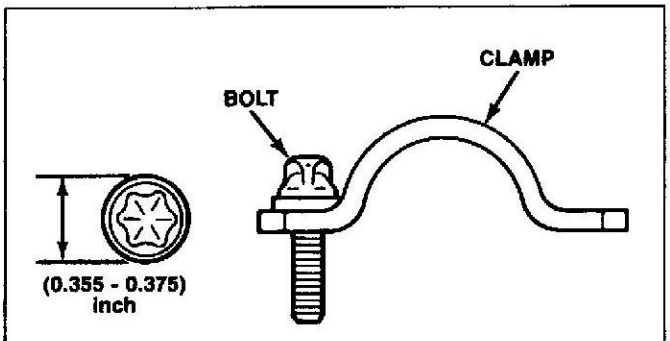
(1) Place transmission gear selector in neutral and raise vehicle.

(2) Rotate propeller shafts and inspect the following U-joint to yoke attaching clamp bolts with Torx heads.

1979 CJ Models — Inspect bolts and clamps at both front axle yoke and rear axle yoke.

1980 CJ Models — Inspect bolts and clamps at all yokes.

If all bolt heads have small flange (Fig. 1) and there is no interference with clamp, clean yoke using wire brush and shop cloth with solvent. Color every yoke with dab of light colored paint where screws and clamps were correct to note campaign completion, and return vehicle to owner.



Correct

Fig. 1

If any bolt heads have large flange (Fig. 2), then clamp and bolts must be replaced. Refer to the Replacement Procedure.

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REPLACEMENT PROCEDURE

(1) Remove and discard propeller shaft yoke bolts and clamps identified as faulty during inspection.

NOTE: *These torx head bolts require a thin wall, E8 Torx-drive socket as found in the J-25359-02 Torx bit and socket set.*

(2) Install new bolts and clamps and tighten replacement bolts to 15 ft. lbs. (19N.m) torque.

(3) Clean yoke using wire brush and shop cloth with solvent.

(4) Color every yoke with dab of light colored paint where screws and clamps were replaced to note campaign completion.

(5) Lower vehicle.

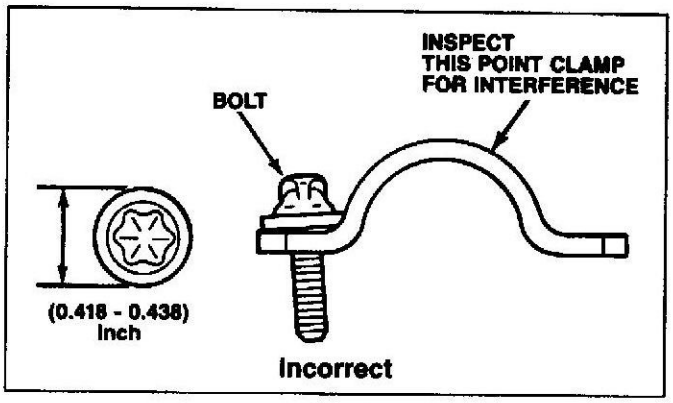

Fig. 2

The following operations and standard work times will apply:

OPERATION DESCRIPTION	ALPHA SERVICE CODE FOR CLAIM	MODEL	YEAR & TIME -79- -80-	SKILL LEVEL
BOLTS/CLAMPS, Propeller Shaft to Yoke — Inspect (includes Drive-in/Drive-out)	A	83-93	0.2	M
Replace (includes Drive-in/Drive-out and Inspection Time Allowance)				
One	B		0.4	
Two	C		0.5	
Three	D		0.6	
All	E		0.7	

CLAIM HANDLING AND CAMPAIGN REPORTING

Beginning with this campaign, owners of record will be mailed a new AMC and Jeep combined Product Recall Campaign Notice and Claim Form (Fig. 3). This new form is to be used in place of a warranty claim and a campaign reporting card.

This new Product Recall Campaign Notice and Claim Form is a six-page form that is pre-printed with the customer's name and address and the campaign name and number. The entire form will be mailed to the owner of record along with a cover letter outlining the defect and instructions to present the complete form to the dealer at the time the vehicle is serviced.

The six copies are:

Cover Sheet: contains instructions for the owner and shows the dealer where to imprint his dealer plate.

CCD Copy: to be submitted to CCD for campaign reporting and crediting.

Factory Copy: to be used as a packing copy for returnable parts when required.

Dealer Accounting/Dealer Service/Owner File Copy: this copy is for the dealer file.

Customer Copy: to be given to the customer as a record of the campaign service performed.

Reply Card: to be used by the owner if he or she no longer owns the vehicle or has moved.

Upon presentation of this form by an owner, the dealer should:

- Imprint the combined notice and claim form in the upper right hand corner with his dealer plate and remove the cover sheet.
- Complete the header information boxes.
- Have the owner sign the form on the owner signature line.
- Perform the required campaign service as outlined in the DRB.

• Complete the form by entering the R.O. date, mileage and placing an X in the appropriate alpha code box indicating the campaign service which was performed. (The alpha code, which takes the place of the cost code and operation number, can be found in the SSO Block of this DRB).

• Sign the form in the area provided and mail the CCD copy to CCD in Milwaukee.

In the event the owner misplaces or neglects to bring in the campaign notice and claim form, the dealer should use a blank Campaign Notice and Claim Form. A small supply is included with this DRB. Should you need more forms, they are available from your Zone Service Department.

If an owner fails to present the campaign notice and claim form, the dealer must check the Vehicle Identification Number (VIN) against his Campaign VIN List or the total campaign VIN range contained in the Campaign DRB to ensure the vehicle is eligible to receive campaign services.

When it is necessary to use a blank campaign form, be sure to enter the owner's name and address, VIN, Zone PDC and Dealer Code, campaign name or number, date of campaign service and dealer's signature in the areas provided and "X" the appropriate service box as outlined in the Diagnosis and Repair Bulletin.

Based on the alpha box checked, the dealer will automatically be credited on the mid or end-of-month memorandum of warranty transactions (code 40) referencing the claim number on the form. The single claim credit will include Drive-in/Drive-out, corresponding labor, parts cost at dealer net and applicable parts mark-up.

Although it will no longer be necessary for the dealer to enter the parts and labor costs for processing of the recall claim, the dealer may wish to complete the internal records box in the lower left hand corner of the claim. The figure shown in this box should be entered on the dealer's claim register along with the claim number.

Starting with this UJOINT Campaign, it will no longer be necessary to complete a warranty claim form and a campaign reporting card after servicing an AMC or Jeep vehicle involved in a product recall.

PLEASE NOTE: *All prior campaign service claims must be handled as in the past, (using a warranty claim form properly completed for the campaign repair.)*

American Motors Sales Corporation

PRODUCT RECALL CAMPAIGN NOTICE (AND CLAIM FORM)

I authorize that the repair work be performed on the described motor vehicle. The vehicle may be operated by you or your personnel for test and inspection purposes.

Q. Owner
Owner's Signature

SERVICING DEALER:
After the required campaign service has been performed, please imprint your plate to the right and sign the claim and complete the applicable information below. Follow the instructions in the Diagnosis and Repair Bulletin (DRB) for this campaign. Please be accurate and legible since this information will be used for campaign reporting and crediting. Mail this claim to CCD in Milwaukee. If returnable parts are involved, follow the applicable bulletin instructions.

bsm324	490-1234	7230	4004347

SERVICING DEALER IDENTIFICATION

31080

RED CARPET MOTORS
00000000 AMERICA
ANYTOWN, MI 00000

00-0000 000 10.00

R.O. DATE	Miles / Kilometers (No Tenths)	Claim No	VIN	Campaign No	X Appropriate Boxes as outlined in the Diagnosis and Repair Bulletin
3 21 80 (Mo Day Year)	420	4004347	J0000048	8002	A B C D E F G

Authorized Dealer Signature X J. M. Dealer

This is to certify that the required campaign service has been performed free of charge to the owner of the above vehicle.

Upon completion this form should be submitted with your Warranty Claims to CCD.

OWNER INFORMATION

NAME	ANN OWNER
ADDRESS	1234 ORLEANS ROAD
CITY, STATE, ZIP	ANYTOWN, USA 12345
VEHICLE IDENTIFICATION NO.	JOE18NN000048
Campaign Name and No.	UJOINT (8002)

FOR SERVICING DEALER INTERNAL RECORDS USE ONLY

	COST	SALE
Labor Value	$	
Net Parts Value	$	
% Allowance	$	
Total Claim Value	$	

FOR CCD USE

STATUS CODE

Paid Claim Micro Reference No.

Claim Approved	Total Claim Denied	Claim Return Codes	Remarks
Initials	Denial Code		Initials / Date
Date			

1 CENTRAL CLAIM DEPARTMENT (CCD)

Fig. 3 — Completed Combined Product Recall Campaign Notice and Claim Form

The above is a sample claim illustrating Drive-In/Drive-Out and inspection plus replacement of 3 bolts/clamps.

Jeep

Diagnosis and Repair Bulletin

Subject: Rear Axle Housing Cover Service	Application: 1977-79 CJ Models	File: CHASSIS Axles-Propeller Shaft No. 9-02 May 15, 1979

When performing a service operation that requires removal of the rear axle housing cover, the cover should be aligned prior to installing it.

Servicing involves inspecting the cover to determine whether it extends below the bottom edge of the axle housing and either repositioning or grinding the cover as required.

PROCEDURE

(1) Position rear axle housing cover on axle housing with attaching bolts loosely installed.

(2) Inspect rear axle cover for alignment as follows:

(a) If cover does not extend beyond bottom edge of rear axle housing, no realignment is required. Proceed to step (5).

(b) If cover extends beyond bottom edge of rear axle housing, realign cover by moving it upward. If movement aligns cover, mark position for installation and proceed to step (5).

(3) Remove attaching bolts and rotate axle cover on axle housing. Inspect bottom edge of axle housing, as cover is rotated, to determine if cover no longer extends beyond housing.

(a) If rotating eliminates condition, mark cover position for installation and proceed to step (5).

(b) If rotating cover does not eliminate condition, scribe area of cover that extends below bottom edge of axle housing.

(4) Remove cover and grind scribed area off cover using bench grinder. Remove all sharp edges from cover with file after grinding.

(5) Clean axle housing and housing cover mating surfaces throughly. Apply a thin bead of Jeep Gasket-in-a-Tube or equivalent silicone sealer to housing and cover, or install a replacement gasket. Install and tighten cover bolts to 20 ft. lbs. (27 N•m) torque.

The following operation and standard work time will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
COVER, REAR AXLE — MODIFY	9.007	9051	83-93	0.1	0.1	0.1	G

9-073-09J

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Jeep

Diagnosis and Repair Bulletin

Subject: Revised Ball Stud Preload Correction and Front Wheel Shimmy Procedures	Application: All 1978-79 Jeep Models	File: CHASSIS Axles - Propeller Shaft No. 9-01 January 25,1979

Service procedures and related specifications for Front Wheel Shimmy inspection/correction and front axle Ball Stud Preload Correction in the 1978 and 1979 Jeep Technical Service Manuals have been revised.

These revisions apply to both the 1978 and 1979 Jeep Technical Service Manuals and are outlined separately as follows.

BALL STUD PRELOAD CORRECTION

Refer to Ball Stud Preload Correction on page 2F-5 and change steps (2), (3), (9), (10), (11), and (12) to read:

(2) Loosen lower ball stud jamnut.

(3) Remove cotter pin and slotted nut from upper ball stud.

(9) Install and tighten upper ball stud slotted nut to 10-20 foot-pounds (13-27 N•m) torque to draw lower ball stud into tapered hole in axle yoke. Do not install upper ball stud split ring seat at this time.

(10) Tighten replacement lower ball stud jamnut to 80 foot-pounds (108 N•m) torque.

(11) Remove upper ball stud slotted nut and install replacement split ring seat using tool J-25158. Tighten seat to 50 foot-pounds (68 N•m) torque.

(12) Install slotted nut on upper ball stud. Tighten nut to 100 foot-pounds (136 N•m) torque. Align and install cotter pin without loosening slotted nut.

Refer to the Torque Specifications Chart on page 2F-12 in the 1978 manual and on page 2M-6 in the 1979 manual. Change the lower ball stud jamnut set-to torque to 80 foot-pounds (108 N•m) torque. The upper ball stud retaining nut remains at 100 foot-pounds (136 N•m).

FRONT WHEEL SHIMMY

Refer to step (7) under Front Wheel Shimmy on page 2M-5 and change substep (b), and substeps (g) through (k) to read:

(b) Loosen lower ball stud jamnut and remove cotter pin and slotted nut from upper ball stud.

(g) Install and tighten upper ball stud slotted nut to 10-20 foot-pounds (13-27 N•m) torque to draw lower ball stud into tapered hole in axle yoke. Do not install upper ball stud split ring seat at this time.

(h) Tighten replacement lower ball stud jamnut to 80 foot-pounds (108 N•m) torque.

(i) Remove upper ball stud slotted nut and install replacement split ring seat using tool J-25158. Tighten seat to 50 foot-pounds (68 N•m) torque. Install and tighten upper ball stud slotted nut to 100 foot-pounds (136 N•m) torque. Align and install cotter pin without loosening slotted nut.

(j) Loosely install axle shafts and steering spindles and measure turning effort of each steering knuckle. Refer to Ball Stud Preload Measurement in Chapter 2F — Axles, page 2-F4. If turning effort is less than 10 foot-pounds (14 N•m) torque, proceed to next substep. If turning effort is more than 10 foot-pounds (14 N•m) torque, replace upper and lower ball studs and repeat Ball Stud Preload Correction procedure in Chapter 2F — Axles.

(k) Install axle shafts and repeat procedure outlined in step (7).

(l) Install wheels and lower vehicle.

The current operations and standard work times are not affected by this bulletin.

9-012-SGJ

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Jeep

Diagnosis and Repair Bulletin

Subject: Brakedrum and Rotor Repair vs Replacement	Application: All 1976-79 Jeep Vehicles	File: CHASSIS Brakes-Wheels-Tires (Group 8.000) No. 9-01 February 20, 1979

It is not necessary to replace drums or rotors if the braking surface is rusted or lightly scored, and within dimensional specifications. Instead of replacement, restore surface finish maintaining dimensions within allowable tolerances by using a brake lathe. Replacement is necessary only if drums or rotors have hard spots or machining would cause the part to exceed specified limits.

Because drum and rotor tolerances must be accurate to ensure proper brake operation, correct service procedures are very important. The specifications and procedures for drum and rotor service are as follows.

ROTOR SERVICE

Rotor Inspection

(1) Raise and support front of vehicle.

(2) Remove front wheels.

(3) Remove caliper (do not disconnect brakeline).

(4) Inspect rotor braking surfaces. If surfaces are only lightly rusted or scored, proceed to step (5). If surfaces are severely scored, cracked, chipped, excessively worn, or have hard spots (a series of shiny or dark colored spots), replace rotor.

(5) If rotor surfaces are only lightly scaled, rusted or scored, remove rotor, bearings and seal from rotor. Clean rotor hub bearing surfaces and mount rotor in brake lathe. Clean surfaces using flat sanding discs while rotor is turning in lathe.

(6) Remove rotor from lathe.

(7) Check rotor thickness at center of lining contact area. Thickness must be larger than minimum (replacement) specification and provide sufficient stock for refinishing if necessary. If rotor is within limits, proceed to next step. If rotor is less than minimum thickness specification or refinishing would leave it below minimum thickness specification, replace rotor.

(8) Install bearings and seal in rotor.

(9) Install rotor on steering spindle and check runout and thickness variation. Refer to Rotor Specifications.

Rotor Measurement

(1) Measure rotor lateral (face) runout.

(a) Mount dial indicator on support stand or steering spindle.

(b) Position indicator stylus so it contacts center of rotor lining contact area and zero indicator.

(c) Turn rotor 360 degrees and note indicator reading. Runout must not exceed limit stated in Rotor Specifications.

(d) Refinish rotor if runout exceeds stated limit. Replace rotor if runout is so severe that machining would cause rotor to fall below minimum (replacement) thickness specification. Refer to Rotor Specifications.

(e) If runout is within limits, proceed to step (2).

NOTE: *Excessive lateral runout will cause rotor wobble resulting in chatter, vibration, and pedal pulsation.*

(2) Measure rotor thickness variation.

(a) Measure variation using micrometer or two dial indicators.

(b) Take readings at four or more equally spaced points around rotor circumference and one inch (25 mm) inward from outer edge of rotor.

(c) Thickness variation, from point-to-point, must not vary by more than limit stated in Rotor Specifications.

(d) Refinish rotor if thickness variation exceeds stated limit. Replace rotor if machining will not correct variation or if machining would cause rotor to fall below minimum thickness specification.

NOTE: *Excessive thickness variation will cause pedal pulsation and vibration when the brakes are applied.*

(OVER)

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Additional copies of this bulletin are available through your zone office.

Rotor Refinishing

Rotor refinishing should only be performed using equipment that will machine both of the rotor surfaces simultaneously (machining one side at a time can produce a tapered rotor). The correct surface finish is 15 to 80 microinches for CJ models; 20 to 60 microinches for Cherokee, Wagoneer, and Truck models and must not have tool marks (grooves) after machining.

NOTE: *If a rotor is glazed or highly polished, sanding the rotor may not produce the required rotor finish. It may be necessary to turn the rotor to meet the finish requirements.*

To ensure a correct surface finish, follow the lathe manufacturer's recommendations for feed and speed and either sharpen or replace dull cutting tool bits before machining rotor.

(1) Remove rotor from steering spindle.

(2) Remove bearings and seal from rotor and clean bearing surfaces in rotor hub thoroughly.

(3) Mount rotor in lathe according to manufacturer's instructions and install anti-chatter band.

(4) Sharpen or replace cutting tool bits as necessary.

(5) Machine rotor as necessary and according to lathe manufacturer's instructions only. Make two cuts if required and do not remove more than 0.007 inch (0.18 mm) at a time.

CAUTION: *Do not attempt to refinish rotor if machining would cause the part to fall below the minimum (replacement) thickness specification for that rotor. Refer to Rotor Specifications.*

NOTE: *If one disc brake assembly requires a new set of shoes, the shoes on the other assembly must be replaced to ensure even braking.*

ROTOR SPECIFICATIONS

1979 Models

Rotor Diameter:
CJ. . . . . 11.7 in. (29.7 cm)
Cke, Wag, J-10 Trk. . . . . 12.0 in. (30.48 cm)
J-20 Trk. . . . . 12.5 in. (31.75 cm)

Rotor Hub to Bore Runout (All). 0.010 in. (0.254 mm)

Rotor Lateral Runout (All). . . . 0.005 in. (0.12 mm)

Rotor Minimum (Replacement) Thickness:
CJ. . . . . 0.815 in. (20.7 mm)
Cke, Wag, Trk. . . . . 1.215 in. (30.86 mm)

Rotor Thickness Variation (All). 0.001 in. (0.02 mm)

1978 Models

Rotor Diameter:
CJ. . . . . 11.7 in. (29.7 cm)
Cke, Wag, J-10 Trk . . . . . 12.0 in. (30.48 cm)
J-20 Trk . . . . . 12.5 in. (31.75 cm)

Rotor Hub to Bore Runout (All). 0.010 in. (0.254 mm)

Rotor Lateral Runout (All). . . . 0.005 in. (0.12 mm)

Rotor Minimum (Replacement) Thickness:
CJ. . . . . 1.120 in. (28.45 mm)
Cke, Wag, Trk. . . . . 1.215 in. (30.86 mm)

Rotor Thickness Variation (All). 0.001 in. (0.02 mm)

1977 Models

Rotor Diameter:
CJ. . . . . 11.7 in. (29.7 cm)
Cke, Wag, J-10 Trk. . . . . 12.0 in. (30.48 cm)
J-20 Trk. . . . . 12.5 in. (31.75 cm)

Rotor Hub Bore Runout (All). .0.010 in. (0.254 mm)

Rotor Lateral Runout (All). . . . 0.003 in. (0.076 mm)

Rotor Minimum (Replacement)
Thickness (All). . . . . 1.125 in. (28.5 mm)

Rotor Thickness Variation (All). 0.0005 in. (0.013 mm)

1976 Models

Rotor Diameter:
Cke, Wag, J-10 Trk. . . . . 12.0 in. (30.48 cm)

Rotor Hub Bore Runout (All). . . 0.010 in. (0.254 cm)

Rotor Lateral Runout (All). . . . 0.003 in. (0.076 mm)

Rotor Minimum (Replacement) Thickness
(All). . . . . 1.125 in. (28.5 mm)

Rotor Thickness Variation (All) 0.0005 in.(0.013 mm)

BRAKEDRUM SERVICE

Inspection and Measurement

(1) Raise and support vehicle.

(2) Remove wheels.

(3) Remove brakedrums.

(4) Clean drums using soap and water solution. If drums are grease or oil contaminated, clean drums with alcohol before cleaning with soap and water.

(5) Inspect drums for cracks, severe scoring, distortion, or hard spots (a series of shiny or dark colored spots on contact surface). Replace drums that exhibit these conditions. If drums appear in good condition, proceed to next step.

(6) Refer to Brakedrum Specifications then measure drum inside diameter. If diameter is within limits and refinishing would not create an oversize condition, proceed to next step. If diameter exceeds limits or if drum needs refinishing but would exceed allowable size limits after machining, replace drum.

(7) Mount drum in lathe according to lathe manufacturer's instructions.

(8) Mount dial indicator on lathe so indicator stylus contacts lining surface of drum; zero dial indicator.

(9) Measure drum radial runout.

(a) Rotate drum 360 degrees and observe readings.

(b) Move indicator stylus until readings have been taken across entire contact surface of drum.

(c) Drum runout must not exceed 0.005 inch (0.12 mm) total indicator reading at any point. Also note if indicator readings increase or decrease greatly as stylus is moved across drum surface. Large changes may indicate tapered or bell-mouthed drum.

(10) If drum is within limits and does not need refinishing, install drum. If drum is not within limits or is lightly scored, refinish drum. Refer to Brakedrum Refinishing.

Brakedrum Refinishing

(1) Sharpen or replace cutting tool bit if necessary.

(2) Install anti-chatter band on drum.

(3) Machine drum according to lathe manufacturer recommendations for feed and speed. Do not remove more than 0.010 inch (0.25 mm) of stock during any cut.

(4) Check drum radial runout again after completing machining operations.

NOTE: *When brake shoes are replaced on one wheel, they must also be replaced on the opposite wheel.*

BRAKEDRUM SPECIFICATIONS

1979 Models

Maximum Drum Diameter:
CJ. . . . . 10.060 in. (25.5 cm)
Cke, Wag, Trk. . . . . 11.060 in. (28.09 cm)
J-20 Trk. . . . . 12.060 in. (30.6 cm)

Maximum Drum Radial Runout. 0.005 in. (0.12 mm)

1978 Models

Maximum Drum Diameter:
CJ. . . . . 10.060 in. (25.5 cm)
Cke, Wag, Trk. . . . . 11.060 in. (28.09 cm)
J-20. . . . . 12.060 in. (30.6 cm)

Maximum Drum Radial Runout. 0.005 in. (0.12 mm)

1977 Models

Maximum Drum Diameter:
CJ. . . . . 10.060 in. (25.5 cm)
Cke, Wag, Trk. . . . . 11.060 in. (28.09 cm)
J-20 Trk. . . . . 12.060 in. (30.6 cm)

Maximum Drum Radial Runout. 0.007 in. (0.18 mm)

1976 Models

Maximum Drum Diameter:
CJ. . . . . 10.060 in. (25.5 cm)
Cke, Wag, Trk. . . . . 11.060 in. (28.09 cm)
J-20. . . . . 12.060 in. (30.6 cm)

Maximum Drum Radial Runout. 0.007 in. (0.18 mm)

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME				SKILL LEVEL
				76	77	78	79	
SHOE SET, FRONT (DISC BRAKE)—REPLACE	**8.152**	**8060**		**0.5**	**0.5**	**0.5**	**0.5**	**G**
Disc Assembly—Clean.....		**A**		**0.1**	**0.1**	**0.1**	**0.1**	**G**
Disc Assembly—Resurface.....(One)	**8.163**	**B**		**0.5**	**0.5**	**0.5**	**0.5**	**P**
(Both) Includes clean, inspect and repack wheel bearings. Material allowance for bearing lubricant is $0.30.	**8.163**			**1.0**	**1.0**	**1.0**	**1.0**	**P**
NOTE: *Refer to the appropriate combinations listed for operation Brake Shoes, Four Wheels*—Replace (8050) as they apply.								
BRAKE SHOES, TWO WHEELS (REAR)—REPLACE..... Includes adjust parking brake.	**8.202**	**8020**		**0.8**	**0.8**	**0.8**	**0.8**	**G**
Brake Drum—Reface.....Both	**8.222**	**A**		**0.3**	**0.3**	**0.3**	**0.3**	**P**
Rear Wheel Bearings—Repack (Full Floating Rear Axle)..... Material allowance for bearing lubricant is $0.30.	**9.073**	**B**		**0.4**	**0.4**	**0.4**	**0.4**	**G**
NOTE: *Refer to the appropriate combinations listed for Operation Brake Shoes, Four Wheels—Replace (8000)(8050) as they apply.*								
BRAKE SHOES, (DRUM BRAKE) TWO WHEELS (FRONT)—REPLACE.....	**8.102**	**8010**	**83-93**	**0.7**	**0.7**			**G**
Front Wheel Bearings—Repack..... Remove, wash, inspect, repack, install new seals and adjust. Material allowance for bearing lubricant is $0.30.	**8.909**	**A**		**0.4**	**0.4**			**G**
Drum—Reface—Both.....	**8.127**	**B**		**0.3**	**0.3**			**P**

9-036-08A/J

Diagnosis and Repair Bulletin

Subject: Power Steering Gear Repair vs Replacement	Application: All 1977-79 Jeep Vehicles Equipped with Power Steering	File: CHASSIS Steering and Suspension (1977 Group 10.000) Revised No. 9-01 January 16, 1979

This bulletin is being revised to correct the information in step (D) under "1977 Jeep Technical Service Manual" and step (E) under "1979 Jeep Technical Service Manual." Please remove and discard DRB No. 9-01, Power Steering Gear Repair vs. Replacement, dated November 20, 1978.

The Warranty Administration Manual states that partial or complete overhaul of an assembly shall take precedence over replacement of that assembly; except when the sum total of replacement parts and labor costs (at RFC values) to repair the assembly would amount to 80 percent or more of the sum total parts and labor costs (at RFC values) to replace the assembly.

The appropriate Jeep Technical Service Manuals state that adjustment of the steering gear must be done with the gear assembly removed from the vehicle.

On the other hand, the Standard Servicing Operations Manual (SSO) has an operation and time for steering gear adjustment performed with the gear assembly on the vehicle.

In order to make the Jeep Technical Service Manuals and the Standard Servicing Operations Manual correct and to create continuity requires several changes. After these changes have been made, dealers should have less difficulty complying with requirements of the Warranty Administration Manual. The following procedural changes to the 1977-79 Jeep Technical Service Manuals are necessary. Also, note the changes in the Standard Servicing Operations Manual.

I. 1977 JEEP TECHNICAL SERVICE MANUAL

A. On page 11-47 of the SERVICE DIAGNOSIS CHART under the heading "CONDITION" and after subtitle "POOR RETURN OF STEERING WHEEL TO CENTER," add step (11).

Possible Cause	Correction
(11) Kink in Return Hose	(11) Replace Return Hose

B. On page 11-57 under subtitle "ASSEMBLY - STEERING GEAR HOUSING COMPONENTS," step (12) should be changed to read: Install end plug in rack piston. Tighten end plug to 75 foot-pounds (102 N•m) torque.

C. On page 11-58 under the subtitle "WORMSHAFT BEARING PRELOAD," step (3) should be changed to read: Measure counterclockwise one-half inch (13mm) from first index mark and remark housing. Refer to Figure 1 below.

D. On page 11-58 under the subtitle "PITMAN SHAFT OVERCENTER DRAG TORQUE," step (1) should be changed to read: Loosen locknut, turn pitman shaft adjuster screw (counterclockwise) until fully extended, then turn it back (clockwise) one full turn. Step (7) should be changed to read: Tighten pitman shaft adjusting screw locknut to 20 foot-pounds (27 N•m) torque after adjusting overcenter drag torque.

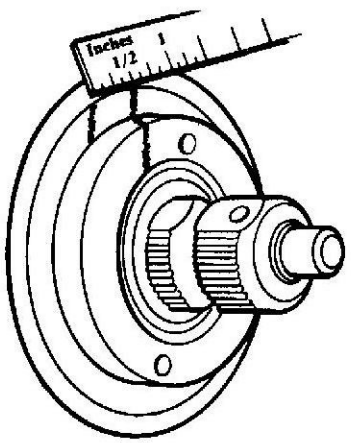

Fig. 1 Indexing Gear Housing

II. 1978 JEEP TECHNICAL SERVICE MANUAL

A. On page 2L-8 of the SERVICE DIAGNOSIS CHART under the heading "CONDITION," add step (11) to subtitle "POOR RETURN OF STEERING WHEEL TO CENTER."

(OVER)

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Additional copies of this bulletin are available through your zone office.

Possible Cause	Correction
(11) Kink in Return Hose	(11) Replace Return Hose

B. On page 2L-12, fig. 2L-7, View A, the information referring to the ball plug should read as shown in fig. 2.

C. On page 2L-32 under subtitle "STEERING GEAR ASSEMBLY AND ADJUSTMENT," step (19) should be changed to read: Install end plug in rack piston. Tighten end plug to 75 foot-pounds (102 N • m) torque.

D. On page 2L-34 under the subtitle "WORM BEARING PRELOAD," step (3) should be changed to read: Measure counterclockwise one-half inch (13mm) from first index mark and remark housing. (Refer to fig. 1.)

E. On page 2L-34 under subtitle "PITMAN SHAFT OVERCENTER DRAG TORQUE," step (1) one should be changed to read: Loosen locknut, turn pitman shaft adjuster screw (counterclockwise) until fully extended, then turn it back (clockwise) one full turn. Step (7) should be changed to read: Tighten pitman shaft adjusting screw locknut to 20 foot-pounds (27 N•m) torque after adjusting overcenter drag torque (fig. 2H-115).

III. 1979 JEEP TECHNICAL SERVICE MANUAL

A. On page 2L-8 of the SERVICE DIAGNOSIS CHART under the heading "CONDITION," add step (11) to subtitle "POOR RETURN OF STEERING WHEEL TO CENTER." Step (11) will read as follows:

Possible Cause	Correction
(11) Kink in Return Hose	(11) Replace Hose

B. On page 2L-12, figure 2L-7, View A, the information referring to the ball plug should read as shown in fig. 2.

Seat ball in housing with blunt-nosed punch. Spray ball area with Loctite solvent No. 75559, then dry with compressed air. Cover ball with Loctite adhesive 290. Let adhesive cure approximately two hours and reinstall housing in vehicle.

C. On page 2L-32 under the subtitle "STEERING GEAR ASSEMBLY AND ADJUSTMENT," step (19) should be changed to read: Install end plug in rack piston. Tighten end plug to 75 foot-pounds (102 N • m) torque.

D. On page 2L-34 under the subtitle "WORM BEARING PRELOAD," step (3) should be changed to read: Measure counterclockwise one-half inch (13mm) from first index mark and remark housing. Refer to Figure 1.

E. On page 2L-35 under the subtitle "PITMAN SHAFT OVERCENTER DRAG TORQUE," step (1) should be changed to read: Loosen locknut, turn pitman shaft adjuster screw (counterclockwise) until fully extended, then turn it back (clockwise) one full turn. Step (7) should be changed to read: Tighten pitman shaft adjusting screw locknut to 20 foot-pounds (27 N•m) torque after adjusting overcenter drag torque.

IV. STANDARD SERVICING OPERATIONS MANUAL

In the October 9, 1978, printing at the bottom of page 2-08-5 is the operation description GEAR, POWER STEERING — ADJUST (ON-VEHICLE) with operation number 10290. DO NOT USE THIS OPERATION NUMBER.

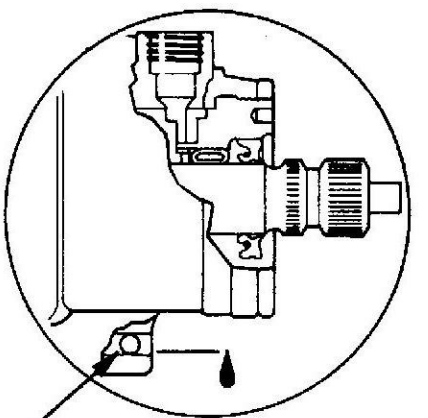

Fig. 2 Revised Steering Gear Leak Diagnosis and Corrective Action (View A)

The following operation and standard work times will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
GEAR ASSEMBLY, POWER STEERING — R & R	**10.500**	**10310**	**WAG-CKE-TRK 83-93**	**0.6**	**0.6**	**0.6**	**G**
With snow plow — Add				**0.8**	**0.8**	**0.8**	
Gear assembly — Adjust	**10.959**	**A**		**0.1**	**0.1**	**0.1**	
Gear assembly — Replace	**10.501**	**B**		**0.2**	**0.2**	**0.2**	**G**
Gear assembly — Overhaul	**10.502**	**C**		**0.1**	**0.1**	**0.1**	**G**
Adjuster Plug — Replace	**10.555**	**D**		**1.2**	**1.2**	**1.2**	**G**
Valve Body assembly — Replace	**10.615**	**E**		**0.3**	**0.3**	**0.3**	**G**
				0.5	**0.5**	**0.5**	**G**
NOTE: *Combinations D and E include adjustment. Use combination C only as a separate operation.*							

9-008-10A/JC

Jeep

PRODUCT RECALL CAMPAIGN
Diagnosis and Repair Bulletin No. 9-02

Subject: Bra[illegible] Cam[illegible]ign A[illegible]cati[illegible]979 [illegible]e CJ-5 and CJ-7 (Type "S" Pr[illegible] Rec[illegible] M[illegible]els Bu[illegible] Betw[illegible] VIN Numbers Campaign) L[illegible] Stee[illegible] J9[illegible]EH8[illegible]007 a[illegible] Connecting R[illegible]jus[illegible]ube J9[illegible]3EC8[illegible]734 Clamp Bolts [illegible]

SAFETY

File: CHASSIS-Steering-Suspension

No. 9-02 December 1, 1978

This is a Type "S" Product Recall Campaign subject to all campaign procedures and involving safety-related elements. A copy of the combined owner notification and correction reporting card for this campaign is shown in Figure (2).

Some 1979 Jeep CJ-5 and CJ-7 model vehicles between VIN's J9A93EH800007 and J9F93EC801734 may have clamps on the adjuster tube that are not properly tightened. Loose clamp bolts could allow the adjuster tube to move or separate from the connecting rod or pitman arm end assembly causing a shift in steering wheel position or complete loss of steering.

Service correction involves checking and correcting clamp bolt torque and steering wheel alignment as necessary.

Under separate cover, the Zone should have already provided a VIN list to each dealer with vehicles involved. However, the campaign procedures apply to all dealers. On each undelivered campaign involved vehicle, the inspection/correction must be made before the vehicle is sold or otherwise put in service.

PROCEDURE

1. Place vehicle on alignment rack.

2. Check adjuster tube clamp bolt torque using foot-pound torque wrench. Refer to Figure (1) for clamp bolt location.

3. If both clamp bolts register 10 foot-pounds (14.Nm) torque or more, return vehicle to owner or to stock.

4. If only one clamp bolt is loose, tighten this bolt to 12 foot-pounds (16.Nm) torque and return vehicle to owner or to stock.

5. If both clamp bolts are loose but steering wheel alignment is correct, tighten bolts to 12 foot-pounds (16.Nm) torque and return vehicle to owner or to stock. If both clamp bolts are loose and steering wheel alignment is incorrect, proceed to next step.

6. Place steering wheel in aligned position and secure wheel using steering wheel holder.

7. Turn adjuster tube until front wheels are in straight-ahead position. Verify wheel position using alignment rack.

8. Tighten adjuster tube clamp bolts to 12 foot-pounds (16.Nm) torque.

9. Remove vehicle from alignment rack and return vehicle to owner or to stock.

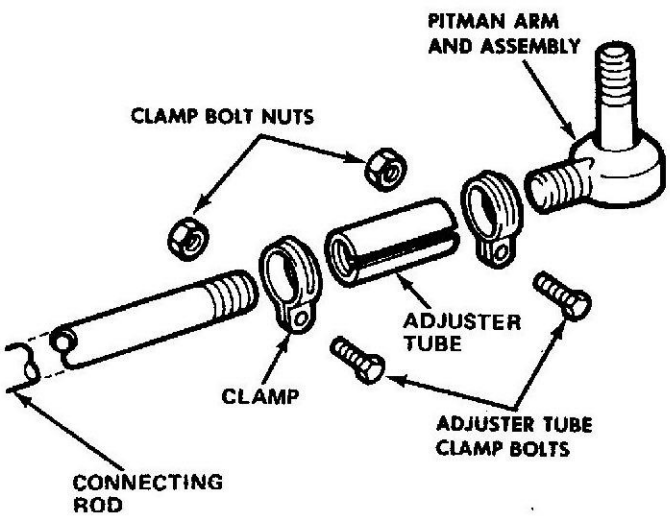

Fig. 1 Adjuster Tube Clamp Bolt Location

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The following operation and standard work time will apply:

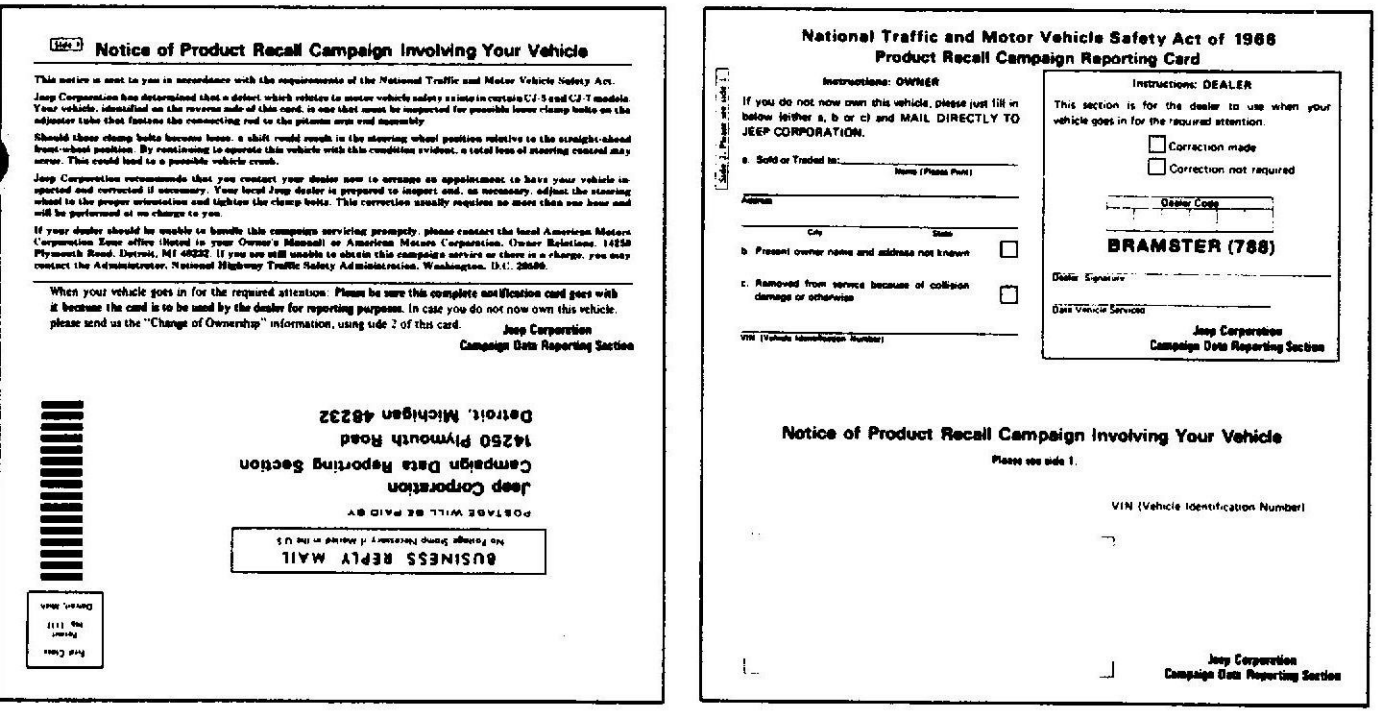
OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
CLAMP, ADJUSTER TUBE							
Inspect and Torque One or Both	**10.230**	**10183**	**83-93**	–	–	**.1**	**6**
Center Steering Wheel	**10.231**	**A**		–	–	**.2**	
Applicable Defect Code: 56 Product Recall Campaign							

CLAIM HANDLING

Several vehicles may be listed on a single Warranty Claim, Reference Warranty Administration Manual (WAM), Section 7, Product Recall Campaign.

Complete and mail the reporting half of the notification card (Figure 2) for each vehicle as soon as campaign service is complete.

CAUTION: *On multiple-vehicle claims, do not delay any claim so that we will receive it beyond the time limit outlined in the WAM.*


Notice of Product Recall Campaign Involving Your Vehicle

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act.

Jeep Corporation has determined that a defect which relates to motor vehicle safety exists in certain CJ-5 and CJ-7 models. Your vehicle, identified on the reverse side of this card, is one that must be inspected for possible loose clamp bolts on the adjuster tube that fastens the connecting rod to the pitman arm end assembly.

Should these clamp bolts become loose, a shift could result in the steering wheel position relative to the straight-ahead front-wheel position. By continuing to operate this vehicle with this condition evident, a total loss of steering control may occur. This could lead to a possible vehicle crash.

Jeep Corporation recommends that you contact your dealer now to arrange an appointment to have your vehicle inspected and corrected if necessary. Your local Jeep dealer is prepared to inspect and, as necessary, adjust the steering wheel to the proper orientation and tighten the clamp bolts. This correction usually requires no more than one hour and will be performed at no charge to you.

If your dealer should be unable to handle this campaign servicing promptly, please contact the local American Motors Corporation Zone office (listed in your Owner's Manual) or American Motors Corporation, Owner Relations, 14250 Plymouth Road, Detroit, MI 48232. If you are still unable to obtain this campaign service or there is a charge, you may contact the Administrator, National Highway Traffic Safety Administration, Washington, D.C. 20590.

When your vehicle goes in for the required attention: Please be sure this complete notification card goes with it because the card is to be used by the dealer for reporting purposes. In case you do not now own this vehicle, please send us the "Change of Ownership" information, using side 2 of this card.

Jeep Corporation
Campaign Data Reporting Section

BUSINESS REPLY MAIL
POSTAGE WILL BE PAID BY
Jeep Corporation
Campaign Data Reporting Section
14250 Plymouth Road
Detroit, Michigan 48232

National Traffic and Motor Vehicle Safety Act of 1966
Product Recall Campaign Reporting Card

Instructions: OWNER

If you do not now own this vehicle, please just fill in below (either a, b or c) and MAIL DIRECTLY TO JEEP CORPORATION.

a. Sold or Traded to: _____ Name (Please Print)

Address

City State

b. Present owner name and address not known ☐

c. Removed from service because of collision damage or otherwise ☐

VIN (Vehicle Identification Number)

Instructions: DEALER

This section is for the dealer to use when your vehicle goes in for the required attention.

☐ Correction made
☐ Correction not required

Dealer Code

BRAMSTER (788)

Dealer Signature

Date Vehicle Serviced

Jeep Corporation
Campaign Data Reporting Section

Notice of Product Recall Campaign Involving Your Vehicle

Please see side 1.

VIN (Vehicle Identification Number)

Jeep Corporation
Campaign Data Reporting Section

Fig. 2 Owner Notification and Correction Reporting Card

Jeep

Diagnosis and Repair Bulletin

Subject: Improved Method For Retaining Electrically Operated Tailgate Glass In Lower Channel	Application: 1979-81 Cherokee and Wagoneer Models With 5/32-Inch Thick Electrically Operated Tailgate Glass	File: BODY — Body General No. 81-3 July 3, 1981

This bulletin supercedes Diagnosis and Repair Bulletin Number 9-01, filed under BODY — Body General, and dated May 15, 1979. Discard all copies of bulletin 9-01 and replace it with this current bulletin.

On some 1979-81 Cherokee and Wagoneer models equipped with electrically operated tailgate glass, the tailgate glass may separate from the channel. This bulletin provides an improved method of retaining the glass in the channel.

Service correction involves inspecting the tailgate glass assembly, replacing any damaged components if necessary, installing a double coated foam tape sealer to retain the glass in the channel, and installing a stop bumper and bracket at each side of the lower channel.

The following parts are required and will be available the week of July 27, 1981. Do not order parts before this date.

Description	Quantity	Part No.	Group
CHANNEL, Tailgate Glass, Lower	1	5455959	25.033
SEALER, Tailgate Glass	1	8130418	25.033
BRACKET, Stop	2	959614	25.054
BUMPER, Rubber Stop	2	968734	40.088
SCREW, 10-24 x 1/2" Pan Head	2	G0159920	17.598
SCREW, 1/4-20 x 3/4" Flat Head	4	G0156253	17.586
NUT, 10-24	2	G0271166	17.412

PROCEDURE

(1) Remove tailgate glass. Refer to appropriate Jeep Technical Service Manual for procedure.

(2) Inspect tailgate glass operating components. Replace any components that are bent or damaged.

(3) Clean lower portion of tailgate glass using isopropyl alcohol.

CAUTION: *If the vehicle is equipped with a rear window defogger, do not wipe or rub the defogger grid and do not allow the window cleaning agent to contact the grid.*

(4) Cut two 53-1/2-inch long strips of sealer from roll. Place one strip of sealer over the other (with adhesive sides together) to form one double thickness strip of sealer that is 53-1/2 inches in length.

(5) Position tailgate glass so bottom edge of glass faces upward. Support opposite edge of glass on cushioned surface to avoid damaging glass.

(6) Remove silicone treated liner from one side of double thickness sealer strip.

(7) Center sealer strip over bottom edge of tailgate glass. Starting at one end, install sealer along entire length of glass. Be sure to keep sealer centered on edge of glass during installation.

(8) Remove silicone treated liner from opposite side of sealer strip and install channel on bottom edge of tailgate glass. Press or tap channel into position carefully. Be sure channel is fully seated before continuing.

(9) Drill two 1/4-inch mounting holes for stop bumper brackets at each lower corner of tailgate inner panel as follows:

(a) Position right side template on driver side lower corner of tailgate inner panel (Fig. 1). Align template edges with bottom and side of tailgate inner panel, and tape template in place. Mark hole locations indicated on template using centerpunch and remove template.

(b) Turn template around and position left side template on passenger side lower corner of tailgate inner panel. Align template edges with bottom and side of tailgate inner panel and tape template in place. Mark hole locations indicated on template using centerpunch and remove template.

(c) Drill two 1/4-inch holes at each lower corner of tailgate at locations marked with centerpunch.

(d) Remove metal chips generated by drilling operations using magnet.

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Additional copies of this bulletin are available through your zone office.

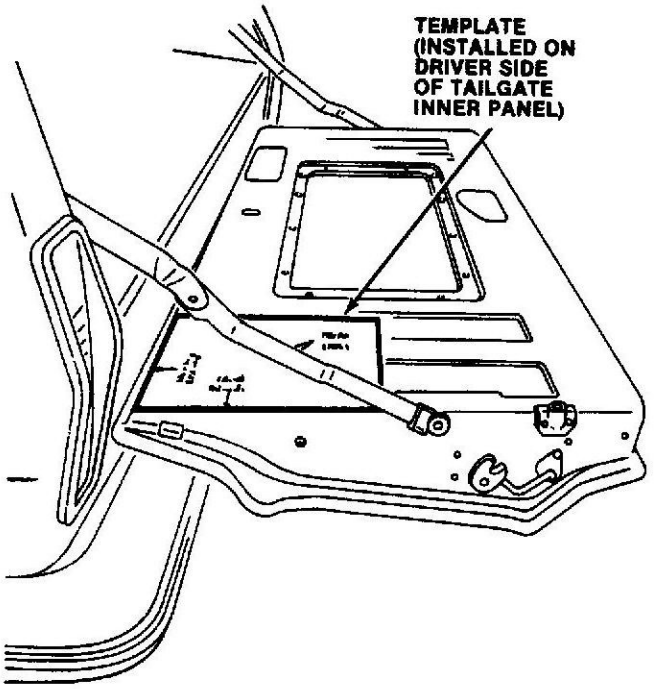

Fig. 1 Positioning Template on Tailgate Inner Panel

(10) Install rubber bumpers on stop brackets (Fig. 2). Use 10-24 x 3/4-inch pan head screws and nuts to attach bumpers to brackets.

NOTE: *The stop bracket may have a rubber or plastic insert in the screw slot at the top of the bracket. Remove and discard this insert before installing the rubber stop bumper.*

(11) Install one bumper and bracket assembly at each lower corner of tailgate inner panel (Fig. 2). Work through the tailgate access panel opening to install brackets and secure brackets to panel using 1/4-20 flat head screws.

(12) Loosen original tailgate glass center stop, move stop to lowest position, and tighten stop.

(13) Install tailgate glass but do not install access or trim panel at this time. Refer to appropriate Jeep Technical Service Manual for glass installation procedure.

(14) Lower tailgate glass and verify proper channel-to-stop-bumper contact. Reposition rubber bumpers as necessary to obtain proper contact.

(15) Install tailgate access and trim panels.

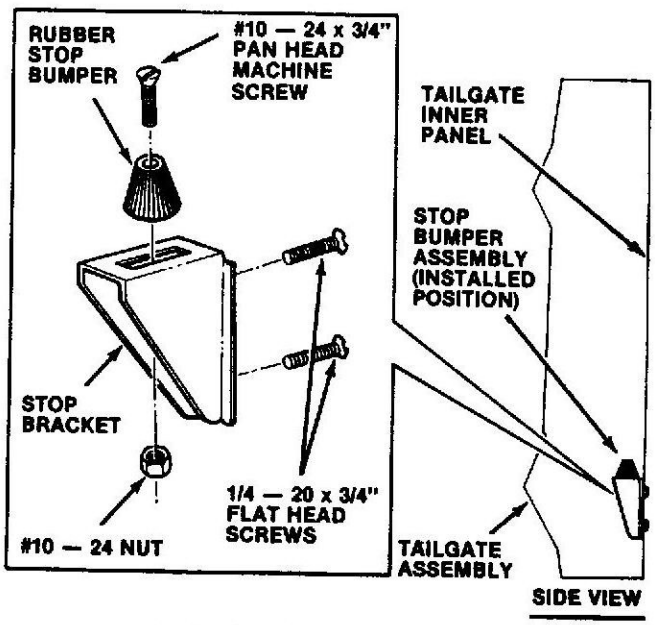

Fig. 2 Stop Bumper Installation

The following standard servicing operation and work time will apply.

OPERATION DESCRIPTION	COST CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				79	80	81	
STOP BUMPER Assembly, TAILGATE GLASS – INSTALL.....	25.033	25157	Cke—Wag	0.5	0.5	0.5	G

81-089-BSJ

ALIGN WITH BOTTOM
EDGE OF TAILGATE
INNER PANEL
LEFT SIDE
TEMPLATE
ALIGN WITH SIDE
EDGE OF TAILGATE
INNER PANEL
CENTERPUNCH
AND DRILL 1/4"
DIAMETER HOLES
HERE

CENTERPUNCH
AND DRILL 1/4"
DIAMETER HOLES
HERE
RIGHT SIDE
TEMPLATE
ALIGN WITH
SIDE EDGE OF
TAILGATE INNER
PANEL
ALIGN WITH BOTTOM
EDGE OF TAILGATE
INNER PANEL

Jeep

Diagnosis and Repair Bulletin

Subject: Electrically Operated Tailgate Glass to Lower Channel Retention	Application: 1979 Cherokee and Wagoneer with 5/32-inch Thick Tailgate Glass	File: BODY Body General No. 9-07 May 15, 1979

Some 1979 Cherokee and Wagoneer models may have an electrically operated tailgate glass that has separated from the lower channel. An improved method of retaining the glass has been developed.

Service correction involves checking the assembly, replacing any damaged components and using a double coated foam tape sealer to hold the glass in the lower channel.

NOTE: *Vehicles with 5/32-inch thick glass must have the correct tailgate lifter channel described below for proper retention.*

The following parts are required and will be available May 28, 1979. Do not order parts before this date.

Description	Quantity	Part No.	Group No.
CHANNEL, Tailgate Glass Lower (Lifter)	1	5455959	25.033
SEALER, Tailgate Glass Bottom	1	8130418	25.033

PROCEDURE

(1) Remove tailgate glass as outlined in 1979 Jeep Technical Service Manual. Check tailgate glass operating mechanism for bent or damaged components. Replace as necessary.

(2) Using a low strength solvent (i.e., isopropyl alcohol, etc.), clean lower section of glass.

NOTE: *Do no wipe or rub grid area when cleaning glass.*

(3) Cut two pieces of tailgate glass bottom sealer 53½-inches long from roll. Place one piece on top of other with adhesive sides together forming a 0.090-inch thick strip 53½-inches long.

(4) Position glass with bottom edge facing up and top edge on cushion to prevent damage to glass.

(5) Remove silicone treated liner from one side of new sealer. Starting at one end, center sealer over edge of glass. Lay sealer along complete length of glass, keeping sealer centered over edge of glass.

NOTE: *Do not wrap sealer around the bottom edge of the glass at this time.*

(6) Remove second silicone liner and wrap sealer around bottom edge of glass.

(7) Install new bottom channel on glass by pressing or tapping channel into position. Be sure channel is fully seated on glass.

(8) Install tailgate glass as outlined in 1979 Jeep Technical Service Manual.

The Standard Servicing Operations and work times as published in the current SSO manual are not affected by this bulletin.

9-076-BSJ

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Diagnosis and Repair Bulletin

Subject: Hood Release Handle Binding or Inoperative	Application: 1979 Wagoneer, Cherokee and Truck Models Built Prior to VIN J9A15NN060233	File: BODY Body General No. 9-06 February 28, 1979

On some early built vehicles, the hood release handle may bind or the latch paddle may move behind the release handle. Once the latch paddle has moved behind the release handle, the hood cannot be opened.

Service correction involves removing the hood release handle, lubricating the shoulder bolt, and reinstalling the handle and shoulder bolt with an additional steel and nylon washer. In addition, hood release handle spring tension can be increased by drilling an additional hood release handle spring attaching hole.

Description	Quantity	Part No.	Group No.
WASHER, Flat	1	664596	29.105
WASHER, Nylon	1	3613467	23.104

PROCEDURE

(1) Open hood.

NOTE: *If hood will not open, put a piece of masking tape on either side of the hood center to avoid scratching paint. Using a small screwdriver, remove the Phillips-head screws that attach the upper center section of the grille to the radiator splash panel.*

(2) Remove grille from grille face panel and radiator grille support and baffle assembly.

(3) Remove hood release handle assembly using Torx Bit Tool J-25359-02 and raise hood if not already done by pulling latch paddle forward.

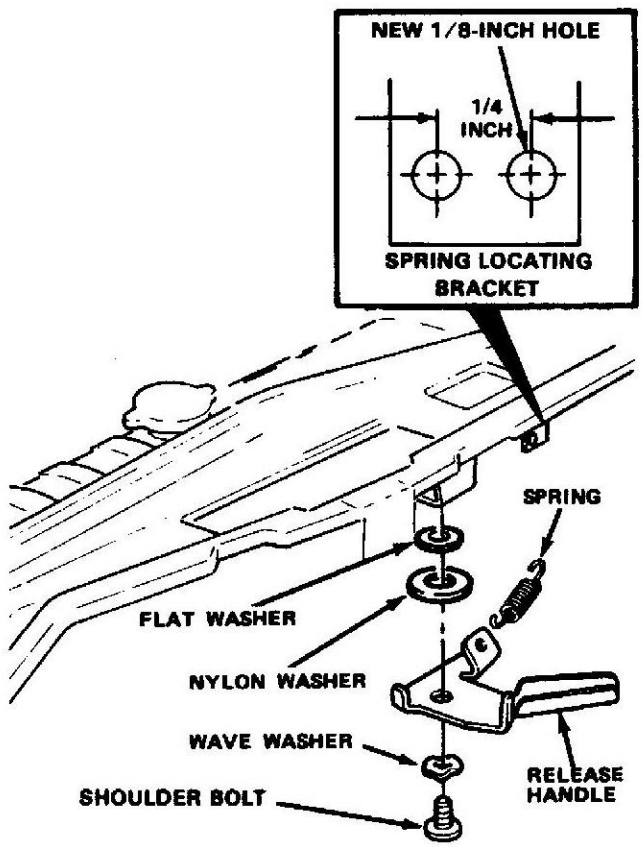
(4) Drill a 1/8-inch hole, 1/4 inch outboard on hood release handle spring locating bracket (see illustration).

(5) Install spring in new hole on locating bracket.

(6) Lube hood release handle shoulder bolt and washers using Lubriplate 8990685 or equivalent.

(7) Install nylon washer on upper side of handle (see illustration).

(8) Install steel flat washer on top of nylon washer.



Hood Release Handle Assembly and Spring Tension Modification

(9) Refit assembly making sure wave washer on shoulder bolt is located on bottom side of handle.

(10) Tighten shoulder bolt using Torx Bit Tool J-25359-02 and check handle assembly for proper operation.

(11) Install grille to sheet metal. If vehicle is equipped with cold climate package, loosely position block heater cord in radiator opening before installing grille.

(12) Close hood and verify that handle is returning to its proper position.

(OVER)

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The following operation and standard work time will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
HANDLE, HOOD RELEASE — REMOVE AND INSTALL SPACER AND SPRING	**12.060**	**12045**	**WAG-CKE-TRK**			**0.4**	**G**

9-055-BSJ

Diagnosis and Repair Bulletin

Subject: Wagoneer Limited, Front Fender Woodgrain Moulding Retention	Application: 1978-79 Wagoneer Models with Limited Trim Option	File: BODY Body General No. 9-05 February 2, 1979

A procedure has been developed for repairing loose vinyl woodgrain moulding on the front upper corner of the front fender on Wagoneer Limited models.

The service correction involves drilling and counterboring a hole in the moulding, installing a pop rivet, and inserting a color-coordinated vinyl plug to fill the remaining recess.

The following parts are required and will be available February 2, 1979. Do not order parts before this date.

Description	Quantity	Part No.	Group No.
RIVET, Pop	2	4004962	12.078
PLUG, Moulding	2	5750596	12.078

PROCEDURE

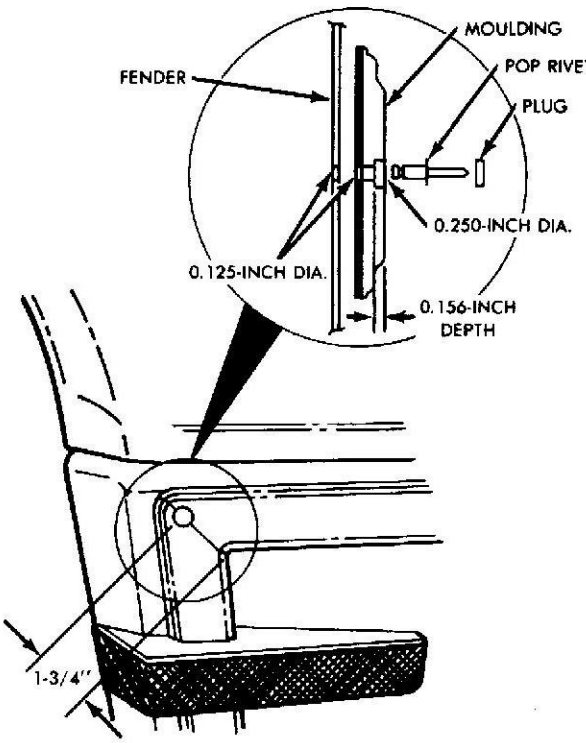
(1) Measure up from bottom edge of miter joint 1-3/4 inches along center of miter joint and make a mark at this point (see illustration).

(2) Push moulding flush against fender and drill 0.125-inch hole through moulding and fender at mark.

CAUTION: *Care should be taken to prevent the drill chuck from contacting the moulding when drilling through the fender.*

(3) Counterbore a 0.250-inch diameter hole to a depth of 0.156 inches at original 0.125-inch diameter hole (see illustration).

(4) Push moulding flush against the fender and install pop rivet through fender and moulding.



Wagoneer Limited Moulding Retention

(5) Apply adhesive to moulding plug, align woodgrain pattern and install plug in counterbore (see illustration).

NOTE: *Before applying adhesive to the plug it may be necessary to trim the plug to fit flush with the moulding surface.*

The following operation and standard work time will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
MOULDING, WOODGRAIN — REPAIR Both sides	**26.030**	**26009**	**WAG**		**0.2**	**0.2**	**G**

9-031-BSJ

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Diagnosis and Repair Bulletin

Subject: Tailgate Window Overtravel	Application: 1979 Wagoneer and Cherokee Models Built Prior to J9XXXXX056283	File: BODY Body General No. 9-04 January 26, 1979

Early production Wagoneer and Cherokee power tailgate windows may overtravel in the up position, causing a noise when the window lift channel contacts the upper inner weatherseal just before the tailgate glass seats in the closed position.

Service correction involves installing three pieces of 3/8-inch O.D. vacuum hose in the upper tailgate glass run channel to limit the upward travel of the tailgate glass.

The following parts are available and required:

Description	Quantity	Part No.	Group No.
HOSE, 3/8-inch O.D. x 3-1/2-inch long	3	8125812 Bulk	4.701

PROCEDURE

(1) Cut three pieces of hose 3-1/2-inches long from bulk hose.

(2) Lower tailgate glass completely.

(3) Insert three pieces of hose in upper tailgate glass run channel. One piece of hose is to be located at each top corner and one piece is to be located in middle. Roll edge of tailgate glass run channel window seal over hose to hide it from view.

(4) Raise tailgate glass to seat vacuum hose.

The following operation and standard work time will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
STOP, TAILGATE GLASS RUN CHANNEL — INSTALL	25.141	25191	WAG—CKE			0.2	G

9-039-BSJ

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Diagnosis and Repair Bulletin

Subject: Windshield Cracking During Extreme Cold Weather	Application: 1978-79 CJ Models Built Prior to J9XXXXH035319 (Toledo) and J9XXXXH804015 (Brampton)	File: BODY Body General No. 9-03 December 8, 1978

Some subject vehicles may exhibit windshield stress cracks in extremely cold weather. When this condition occurs, the crack originates at the bottom of the windshield at or above the defroster opening.

Service correction involves replacing the windshield as outlined in the appropriate Jeep Technical Service Manual and installing new defroster air deflectors.

The following parts are available and required:

Description	Quantity	Part No.	Group
DEFLECTOR, Windshield Defroster Air, LH	1	5750339	25.004
DEFLECTOR, Windshield Defroster Air, RH	1	5750340	25.004

PROCEDURE

(1) Using windshield removal and installation procedures as outlined in appropriate Jeep Technical Service Manual, remove defroster air deflectors.

(2) After rearview mirror has been installed on replacement glass bracket, install new deflectors on windshield frame.

(3) Complete windshield installation procedure as outlined in Technical Service Manual.

The following operations and standard work times will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
GLASS, WINDSHIELD — REPLACE ..... Includes sealing	**25.001**	**25130**	**83-93**		**0.8**	**0.8**	**G**
Material allowance for sealant is $0.90							
Mirror mounting support kit — Install	**25.001**	**A**			**0.1**	**0.1**	**G**
Deflectors, windshield defroster — Replace.....	**13.115**	**C**			**0.1**	**0.1**	**G**
NOTE: *Combination B is not applicable.*							

8-115-BSJ

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Diagnosis and Repair Bulletin

Subject: Door Lock and Latch Mechanism Freeze-Up	Application: All 1978-79 Cherokee, Wagoneer and Truck Models	File: BODY Body General No. 9-02 November 10, 1978

In an effort to minimize the annual door lock/latch freeze-up complaints during adverse winter weather, a service procedure has been developed to help prevent recurrence.

Service correction involves removing the door trim panel, blowing any accumulated moisture out of the affected mechanism, and lubricating the lock or latch mechanism.

NOTE: *If a deicing fluid containing alcohol is used on a lock or latch mechanism, the lock or latch mechanism must be lubricated to prevent further freeze-up.*

PROCEDURE

(1) Remove door latch remote control handle and door window regulator handle.

(2) Remove armrest overlay and armrest from door trim panel.

(3) Remove ash receiver screws and ash receiver, if equipped.

(4) Remove lower door trim panel screws and pry door trim panel nylon spring clips loose with tool J-2631-01 and remove panel.

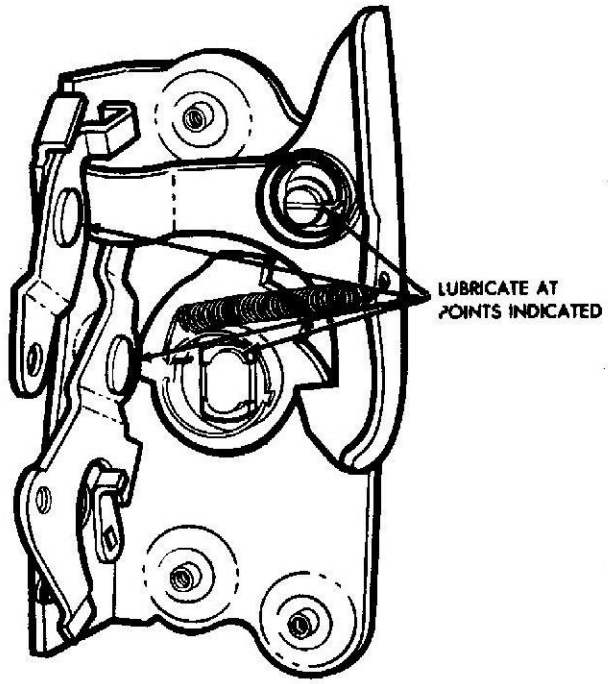
(5) Cut upper rear portion of water shield (dam) paper and fold paper back to gain access to lock and latch mechanisms.

(6) Remove moisture from lock assembly by applying moderate air pressure through face of lock cylinder.

(7) Spray AMC/Jeep Silicone Lubricant (8993542) or equivalent into keyhole of lock cylinder.

(8) Remove moisture from latch mechanism using moderate air pressure to avoid removing lubricant present on latch mechanism.

(9) Lubricate designated latch areas with AMC/Jeep Lubriplate (8990685) or equivalent (see illustration).



Door Latch Mechanism Lubrication Points

(10) Position water shield (dam) paper and fasten in place with masking tape. Tape all edges or areas cut or loosened when removed.

(11) Position trim panel on door and install nylon spring clips in holes of inner door panel.

(12) Install lower door trim panel screws.

(13) Install ash receiver and screws, if so equipped.

(14) Install armrest and armrest overlay.

(15) Install door latch remote control handle and door window regulator handle.

(OVER)

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The following operation and standard work time will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
LOCK AND LATCH - DOOR - EACH - LUBRICATE		23185	CKE-WAG-TRK	0.3	0.3	0.3	M
Front	23.050						
Rear	23.051						

9-015-BSJ

Jeep

Diagnosis and Repair Bulletin

Subject: 1979 Wagoneer, Cherokee, and Truck Plastic Radiator Grille	Application: Early Built 1979 Wagoneer, Cherokee, and Truck Models	File: BODY Body General No. 9-01 September 15, 1978

Some early built 1979 Wagoneer, Cherokee, and Truck Models may have a visible ridge on the plastic radiator grille bars directly above and below the hood release handle. This condition can be corrected by filing the ridge off the grille bars with a flat or mill file.

PROCEDURE

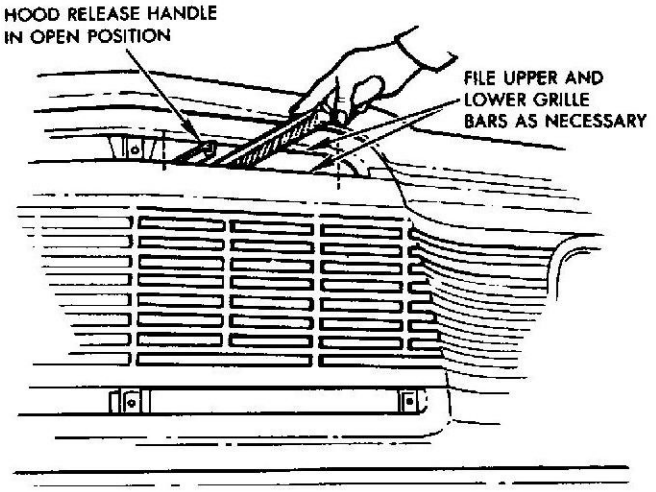
(1) Pull hood release handle to fully opened position.

(2) Angle file so that it is parallel with hood release handle (see illustration).

(3) Remove ridge by filing lower grille bar area until bar is flat.

(4) File upper grille bar as necessary.

(5) Open hood fully, and close hood securely.



1979 Wagoneer, Cherokee, and Truck Model Radiator Grille

The following operation and standard work time will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
					79		
GRILLE, RADIATOR — MODIFY	**2.050**	**2081**	**10-20-40**		**0.1**		**G**

9-003-BSJ

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FILE: Body/Chassis Electrical (BODY - Body Electrical)

No. 8-05-82 Sept. 10, 1982

TECHNICAL BULLETIN

PROBLEM AND APPLICATION: Oil pressure gauge needle flutters during engine operation on some 1979-82 CJ and Scrambler models.

CORRECTION: Install the improved gauge that was phased into production on February 24, 1982. The improved gauges are date coded beginning with code B201 (2-1-82).

PARTS:

Description	Quantity	Part Number	Group
GAUGE, Oil Pressure	1	5750279	3.605

S.R.T. INFORMATION:

Operation Description	T.I.C.	Operation Number	S.R.T.
CO. GAUGE, OIL PRESSURE REPLACE	8-352	8999	0.3

DEALER REIMBURSEMENT: Reimbursable within the provisions of the applicable warranty.

PROCEDURE:

1. Remove the original oil pressure gauge as outlined in Chapter 1L of the appropriate Jeep Technical Service Manual.

2. Obtain a replacement oil pressure gauge and check the gauge date code before installation to be sure it is one of the improved gauges. The code must be B201 (2-01-82) or later.

   NOTE: Code letter B indicates the month, such as B for February, C for March, or D for April. The first number indicates the year, which in this case is 1982. The last two numbers represent the day of the month. For example, code C217 would represent March 17, 1982 and code D208 would represent April 8, 1982. Letter I is not used as a code letter.

3. Install the replacement oil pressure gauge as outlined in Chapter 1L of the appropriate Jeep Technical Service Manual.

82-064-J

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Diagnosis and Repair Bulletin

Subject: Moisture Entering Parking and Front Directional Signal Lamp Assembly	Application: 1976-80 CJ Models	File: BODY Body Electrical No. 80-2 Dec. 7, 1979

Some 1976-80 CJ models may have moisture entering the parking and front directional signal lamp assembly through the wire harness entrance into the upper side of the lamp housing.

Service correction involves repositioning the lamp housing and replacing the lens gasket or the lamp assembly if necessary.

The following parts are available if required:

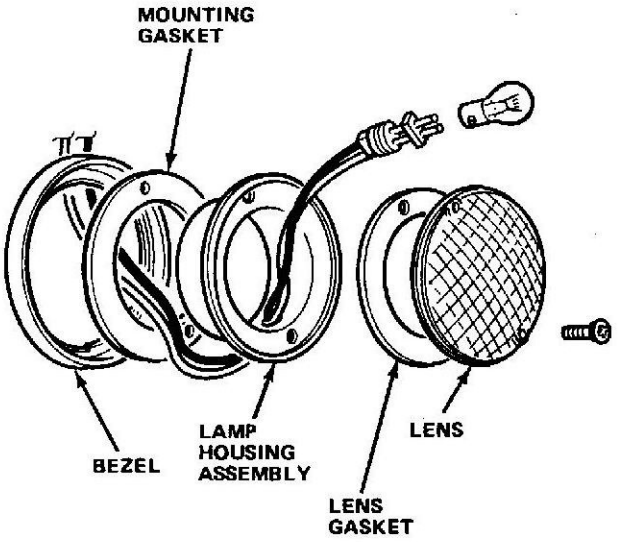
Description	Quantity	Part No.	Group
LAMP, Assembly Parking and Front Directional Signal	AR	5461340	3.292
GASKET, Directional Lamp Mounting and Parking	AR	991400	3.292

PROCEDURE

(1) Remove park and turn signal lamp assemblies from grille panel and inspect mounting gasket for any distortion. Replace gasket if distorted.

(2) Inspect internal bulb sockets for corrosion.
(a) If corrosion is not present, then continue procedure on existing assemblies.
(b) If corrosion is present, obtain replacement lamp and continue procedure.

(3) Apply chassis lubricant or dielectric compound, 8127445, to bulb socket to prevent corrosion.



Lamp Assembly and Gaskets

(4) Remove two screws that attach lens and gasket to lamp housing. Separate lens from lamp housing and gasket. Rotate housing and gaskets 180° so wires exit from bottom of housing and assemble lens to housing (see illustration).

(5) Install assembly (with new mounting gasket if required) to grille panel being careful not to strip screws.

NOTE: *Use locally procured oversized mounting screws if required.*

The following operations and standard work times will apply:

OPERATION DESCRIPTION	COST CODE	OPERATION NUMBER	MODEL	YEAR AND TIME 76-80	SKILL LEVEL
LAMP ASSEMBLIES, PARK AND FRONT DIRECTIONAL SIGNAL— INSPECT AND/OR REPOSITION	3.292	3403	CJ	0.1	G
Replace (One or both)	3.292	A	CJ	0.1	G

80-032-BSA

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Diagnosis and Repair Bulletin

Subject: Tailgate Glass Defogger Wire Repair	Application: 1977-79 Wagoneer and Cherokee with Tailgate Glass Repair	File: BODY Body Electrical No. 9-01 June 7, 1979

If during a tailgate glass repair or during a tailgate glass defogger repair, if either the feed or ground wire for the defogger is found to be broken or chafed adjacent to the tailgate glass lower channel, it can be repaired.

Service correction involves removing any excess tailgate glass-to-channel sealer that would interfere with the correct routing of the feed or ground wire(s), soldering the broken wire, covering the soldering joint with heat shrinkable tubing and securing the repaired wire(s) to the lower glass channel with a nylon strap.

The following parts are available and required:

Description	Quantity	Part No.	Group No.
KIT, Rear Window Defogger	1	8129876	3.774

PROCEDURE

(1) Remove tailgate glass and channel assembly as outlined in appropriate Jeep Technical Service Manual.

(2) If wire(s) requiring repair is not broken, remove nylon strap and cut wire(s) adjacent to tailgate glass lower channel (see fig. 1).

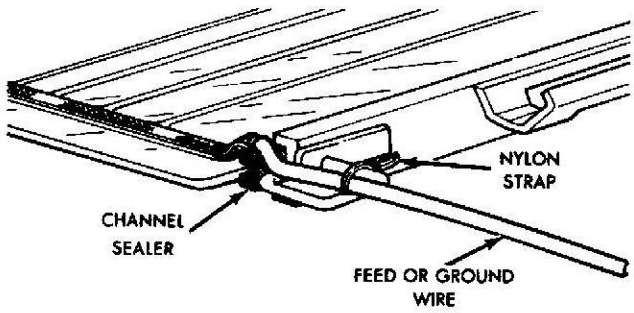

Fig. 1 Defogger Wire Interference

(3) Remove any excess channel sealer that protrudes from end of channel (see fig. 2).

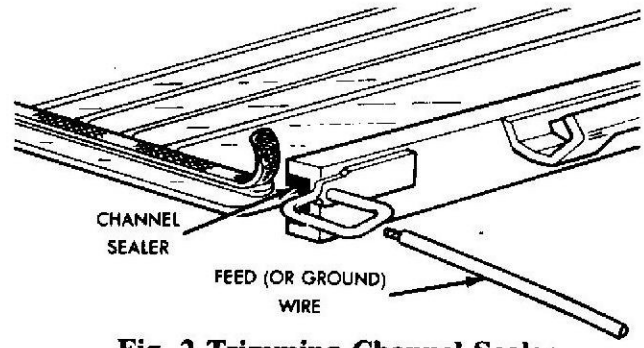

Fig. 2 Trimming Channel Sealer

(4) Clean both ends of wire(s) where cut or broken.

(5) Trim insulation from feed or ground wire(s) to expose approximately 1/4 inch of bare wire.

(6) Slide heat shrinkable tubing over feed or ground wire(s).

NOTE: *Use 60/40 solder or equivalent such as Eutec Rod 157B for this solder joint.*

(7) Solder feed or ground wire(s) to braided strap keeping joint as small as possible. Be sure solder joint is as close as possible to glass.

(8) Slide heat shrinkable tubing over the solder joint(s) (see fig. 3).

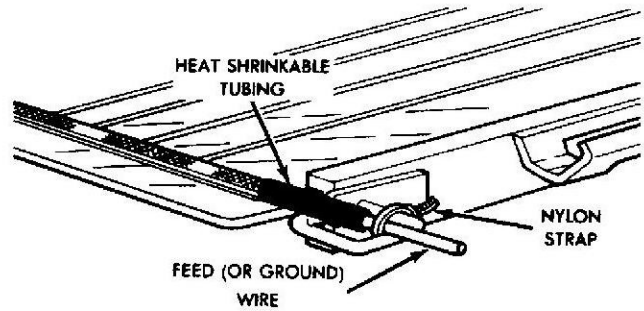

Fig. 3 Tailgate Glass With Defogger Wire In Position

(9) Shrink tubing with low heat soldering gun.

(OVER)

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(10) Secure feed or ground wire(s) with nylon strap to inside of square loop located on channel.

(11) Install tailgate glass and channel assembly as outlined in appropriate Technical Service Manual.

The following operation and standard work times will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
GLASS, TAILGATE — R & R	**25.127**	**25150**	**WAG-CKE**	**0.4**	**0.4**	**0.4**	**G**
Replace	**25.127**	**A**		**0.1**	**0.1**	**0.1**	**G**
Wire, Defogger — Repair							
One side	**3.807**	**B**		**0.1**	**0.1**	**0.1**	**G**

9-086-BSJ

Jeep

Diagnosis and Repair Bulletin

Subject: Air Control Cable Operation	Application: 1978-81 CJ-5 and CJ-7 Models	File: BODY Heater — Air Conditioning No. 81-1 April 13, 1981

In November, 1980, a new cowl fresh air intake duct assembly was phased into production of 1981 CJ models. The new duct assembly provides improved air control cable and intake duct vent operation and can also be used on all 1978-81 CJ-5 and CJ-7 models.

If service diagnosis indicates that a bind in the fresh air intake duct linkage caused the air control cable to bind or break due to excessive cable operating effort, the new fresh air duct assembly should be installed along with a replacement air control cable if necessary.

The following part is available and may be required:

Description	Quantity	Part No.	Group
DUCT ASSEMBLY, Fresh Air Intake	1	5758809	22.020

PROCEDURE

Removal

(1) Disconnect battery negative cable.

(2) Drain two quarts of coolant from radiator into clean container.

(3) Disconnect heater hoses at heater housing.

(4) Remove heater housing drain hose.

(5) On models with air conditioning, remove screws attaching evaporator housing to instrument panel. Move housing away from panel and disconnect wires at air conditioning control switches.

(6) Remove screw attaching heater motor housing to bracket.

(7) Remove nuts that attach heater housing to engine compartment side of dash panel.

(8) Disconnect speedometer cable.

(9) Remove glove box.

(10) Tilt heater housing back, pull housing rearward, and lower housing.

(11) Disconnect heater control cables.

(12) Remove defroster duct and tube assembly.

(13) Remove fresh air intake panel from cowl.

(14) Remove fresh air intake duct assembly from cowl.

Installation

(1) Install defroster duct and tube assembly.

(2) Raise and secure windshield.

(3) Install replacement fresh air intake duct assembly.

(4) Install fresh air intake panel on cowl.

(5) Connect heater control cables.

(6) Position heater housing assembly on dash panel.

(7) Install nuts attaching heater housing to dash panel.

(8) Install glove box.

(9) Connect speedometer cable.

(10) Install screw attaching heater housing to bracket.

(11) On models with air conditioning, connect wires to air conditioning control switches and install evaporator housing on instrument panel.

(12) Connect drain tube to heater housing.

(13) Connect heater hoses.

(14) Refill radiator.

(15) Connect battery negative cable.

The standard servicing operations and work times published in the appropriate SSO manual are not affected by this bulletin.

81-060-13J

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Diagnosis and Repair Bulletin

Subject: Heater Diagnosis and Repair	Application: All 1978-79 Jeep Vehicles	File: BODY Heater-Air Conditioning No. 9-01 April 19, 1979

For all heater repairs, the logical and proper procedure is diagnosis before disassembly. Never assume any component to be the cause of a problem without verification. A systematic diagnosis procedure is extremely important in avoiding time consuming and costly repair delays caused by incorrect or unnecessary repairs. The most effective approach to any heater malfunction involves four basic procedures which are: problem definition and initial inspection, coolant flow checks, vacuum system checks, and a check of all heater system mechanical components. The four procedures should be performed in the sequence outlined and as described in the following paragraphs.

PROBLEM DEFINITION AND INITIAL INSPECTION

Problem definition is the first and most important step in resolving any heater malfunction. Have the owner describe and, if possible, demonstrate the problem condition before proceeding any further.

(1) Have owner describe and demonstrate problem. Problem may simply be misundertanding how heater controls work. If owner knows how to operate controls, proceed to next step. If owner does not know how controls operate, demonstrate proper use and return car to owner.

(2) Raise hood and inspect heater system underhood components. Look for: loose or missing hose clamps, collapsed hoses, loose or missing radiator cap, insufficient coolant in radiator, damaged or loose fan belt, disconnected vacuum hoses, and visually observable coolant leaks. On CJ Models, check for evidence of coolant in the heater housing drain tube.

(3) Inspect interior components and controls. Be sure heater controls operate correctly and do not bind. Also be sure control cables and vacuum lines are securely attached and are not kinked. On Cherokee, Wagoneer and Truck models, signs of coolant on the passenger side floormat or carpeting may indicate problem with heater core or related components. Refer to Mechanical Component Checks, step (6).

(4) Check engine coolant temperature. If coolant does not achieve proper operating temperature (189°F; 87°C) after engine warm-up, thermostat may be staying open or radiator cap may be leaking or developing insufficient pressure.

(5) If problem was revealed during initial inspection, repair as necessary and return car to owner. But, if initial inspection did not reveal problem, refer to next procedure in diagnosis sequence — Coolant Flow Checks.

COOLANT FLOW CHECKS

(1) Check thermostat operation. Perform this check only when coolant is well below operating temperature of 189°F (87°C). Remove radiator cap and start engine. Increase engine speed momentarily and observe coolant motion in radiator top tank. There should be no appreciable flow through tank. If pronounced flow occurs, thermostat is inoperative and should be replaced. If flow was negligible, proceed to next step.

(2) Place heater controls in MAX heat position and operate engine until it reaches operating temperature. If engine coolant reaches proper operating temperature but heat output is still insufficient, proceed to next step. If heat output is sufficient, return car to owner.

WARNING: *The engine coolant is hot and under pressure. Wear safety goggles, cover the radiator cap with a shop towel and remove the cap slowly to prevent coolant surge out of the radiator.*

(3) Remove radiator cap (slowly) and note coolant level.

If coolant level is OK, install cap and proceed to next step. If coolant level is low, add coolant as necessary and check heater output again. If output is now OK, return car to owner. If output is still insufficient, proceed to next step.

(OVER)

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(4) Bleed air from system. Loosen clamp attaching 3/4-inch I.D. return hose to heater core and allow air that may be trapped in cooling system to bleed off. Check heater output again. If OK, return car to owner. If not OK, proceed to next step.

(5) Stop engine and remove radiator cap. Test cap for leakage and capacity using cooling system pressure tester. If cap is OK, proceed to next step. If cap is faulty, replace cap and check heater output again. If output is now OK return car to owner. If not OK, proceed to next step.

WARNING: *Coolant is hot and under pressure. Wear safety goggles and be sure the hose end is directed into the bucket or drain pan.*

(6) Check for system restrictions. Remove heater return hose from heater core outlet. Attach length of heater hose to outlet and secure end of hose in bucket or drain pan. Have helper start and operate engine while you observe flow from hose into container.

(7) If coolant flow is restricted, check flow out of water pump, inlet hose, and through water valve using a length of heater hose and a container as described in step (6).

NOTE: *Be sure to inspect the heater core inlet and outlet tubes and the water pump and thermostat housing inlet and outlet necks for casting flash which can also restrict flow.*

(8) If flow is restricted at any point, repair or replace component(s) as necessary. If coolant flow was OK at all points, proceed to next procedure in diagnosis sequence— Vacuum Checks.

VACUUM CHECKS

Improper vacuum assisted heater door operation or coordination can restrict or completely block heater air flow. The vacuum motors, hoses, and reservoir can be checked using Vacuum Tester J-23738 or applying vacuum by connecting a hose to an intake manifold fitting and operating the engine. Refer to Chapter 3D — Heater in the appropriate Jeep Technical Service Manual for system operation and component location.

(1) Check operation of each vacuum motor using Tester J-23738 or by apply engine vacuum.

(2) If tester indicates a motor or hose will not maintain steady vacuum, replace as necessary and check operation of replacement component.

(3) If vacuum motors and hoses test OK, check vacuum reservoir if equipped. If reservoir will not hold vacuum, replace it. If reservoir is OK, proceed to next step.

(4) Check vacuum assisted heater door operation. If doors are binding or stuck, repair as necessary and check operation again. If doors operate correctly, proceed to next sequence in diagnosis procedure — Mechanical Component Checks.

MECHANICAL COMPONENT CHECKS

A malfunction of the cable operated heater doors can also restrict or completely block heater air flow. In addition, misadjusted door cables or a cracked or damaged heater housing can restrict or diffuse air flow.

(1) Check cable operation. Cables must be securely connected and not binding. Adjust cables if necessary.

(2) Check heater air intake for foreign material. On Jeep vehicles, the intake is located on cowl between hood and windshield.

(3) Check air flow from outlet ducts. Be sure that carpeting is not blocking ducts.

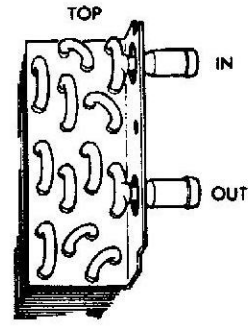
(4) Check heater housing for cracks. Operate fan at intermediate speed and listen for escaping air. Wet fingers and probe around housing to further detect any possible cracks or voids.

NOTE: *Small cracks or voids in the heater housing can be repaired using 3-M Strip Caulk 8578 or equivalent.*

(5) If above components are OK, verify system operation and check for internal obstructions in heater housing by comparing performance with known good car. If air flow is not comparable to known good car, check and repair heater housing as necessary.

(6) If coolant was observed on passenger side carpeting on Cherokee, Wagoneer, Truck models or in heater housing drain tube on CJ models, remove heater core and check for leaks. Cap one outlet tube in core, apply 15 psi air pressure to core, and immerse it completely in container filled with water. Bubbles at any point on the core indicate leak. Replace or repair core as necessary if leak is evident.

NOTE: *Check Cherokee, Wagoneer and Truck model heater core end caps for proper positioning (see illustration).*



HEATER CORE TUBE LOCATION

The Standard Servicing Operations and work times as published in the current SSO Manual are not affected by this bulletin.

9-041-13A/J

Diagnosis and Repair Bulletin

Subject: Sun Roof Arm Operator	Application: 1979-80 CJ-7 Hardtop Models With Type-1 Sun Roof	File: BODY Headlining-Hardtop Enclosure-Exterior Decals and Overlays No. 80-2 Jan. 14, 1981

A new metal arm operator for the Type-1 sun roof used on 1979 and some 1980 CJ-7 hardtop models has been released. The new arm operator provides increased sealing ability by applying additional compression force on the sun roof weatherstrip improving sealing against water leaks.

If it becomes necessary to replace the arm operator on a Type-1 sun roof, the following new part should be used.

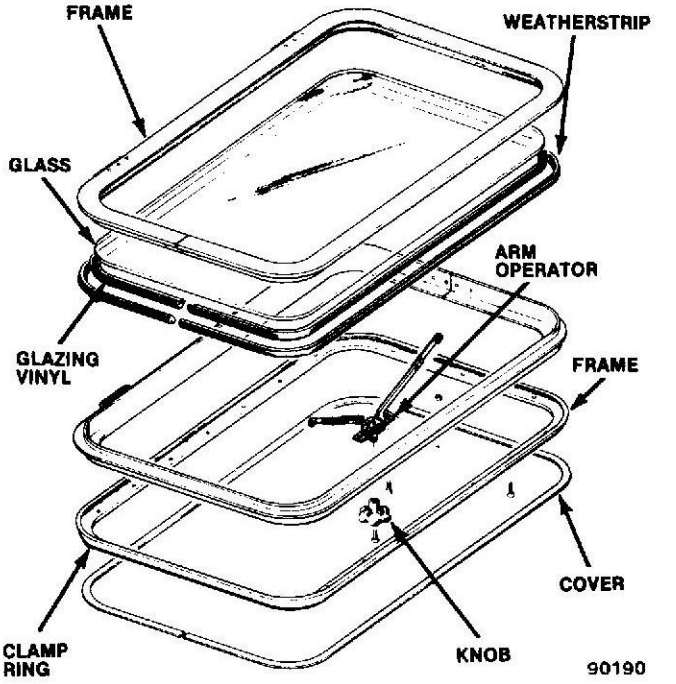
Description	Quantity	Part No.	Group
OPERATOR, Sun Roof Arm (Metal)	1	8129249	28.806

PROCEDURE

(1) Close sun roof.

(2) Remove arm operator attaching screws and nuts (see illustration).

(3) Move arm operator into channel opening and remove arm operator.



Type-1 Sun Roof Assembly

(4) Insert replacement arm operator into channel opening and position arm operator on sun roof.

(5) Install arm operator attaching screws and nuts.

The following standard servicing operation and work time will apply:

OPERATION DESCRIPTION	COST CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				79	80	81	
OPERATOR, SUN ROOF ARM — REPLACE	28.416	25.204	93	0.2	0.2		G

80-164-BSJ

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Diagnosis and Repair Bulletin

Subject: 1979 Phase-Out/1980 Phase-In Program Paint Information	Application: 1979 Jeep Vehicles	File: BODY Metal Repair - Painting Water Leaks/Wind Noise No. 9-04 July 28, 1979

As part of the 1979 Phase-Out /1980 Phase-In program, eight new 1980 exterior colors may be used on 1979 models. They are:

1980 Paint Code	Color	Replaces
OB	Smoke Gray Metallic	9J
OE	Dark Green Metallic	9H
OH	Navy Blue	9T
OJ	Teal Blue	9E
OK	Cameo Tan	9N
OM	Dark Brown Metallic	9K
OP	Cardinal Red	6P
OR	Caramel	(New Color)

NOTE: *Some intermix formulas are marked N/A because they were not available at time of publication. Contact your local paint jobber for information not contained herein.*

SMOKE GRAY METALLIC ENAMEL

DITZLER DAR3239	
Mixing Code	1 Quart Setting
DMR475	24
DMR414	48
DMR433	108
DMR435	152
DMR490	296
DXR495	316
DMR499	996

SMOKE GRAY METALLIC ENAMEL

SHERWIN-WILLIAMS 35-30716	
Mixing Code	1 Quart Setting
F5P-92	9.6
F5M-78	24.0
F5L-68	38.4
F5B-81	250.0
V6V-175	295.0
F5S-101	900.0

SMOKE GRAY METALLIC LACQUER

DITZLER	
Mixing Code	1 Quart Setting
N/A	

SMOKE GRAY METALLIC LACQUER

SHERWIN-WILLIAMS 34-30716	
Mixing Code	1 Quart Setting
L4M-321	5.8
L4N-342	29.4
L4S-345	79.2
L4B-302	314.0
L4S-343	584.0
T1C-324	878.0

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DARK GREEN METALLIC ENAMEL

DITZLER DAR3242	
Mixing Code	1 Quart Setting
DMR435	2
DMR433	26
DMR415	56
DMR490	122
DMR441	562
DXR495	582
DMR499	982

DARK GREEN METALLIC ENAMEL

SHERWIN-WILLIAMS 35-30719	
Mixing Code	1 Quart Setting
F5L-70	54.0
F5B-81	246.0
F5S-101	506.0
V6V-175	551.0
F5G-90	903.0

DARK GREEN METALLIC LACQUER

DITZLER	
Mixing Code	1 Quart Setting
N/A	

DARK GREEN METALLIC LACQUER

SHERWIN-WILLIAMS 34-30719	
Mixing Code	1 Quart Setting
L4S-345	48.0
L4S-335	96.0
L4B-302	240.0
T1C-324	432.0
L4G-311	882.0

NAVY BLUE ENAMEL

DITZLER DAR3243	
Mixing Code	1 Quart Setting
DMR400	26
DMR490	196
DMR450	686
DXR495	706
DMR411	1016

NAVY BLUE ENAMEL

SHERWIN-WILLIAMS 35-30720	
Mixing Code	1 Quart Setting
F5W-80	73.0
F5R-100	238.0
F5B-81	535.0
V6V-175	580.0
F5L-70	910.0

NAVY BLUE LACQUER

DITZLER DDL3243	
Mixing Code	1 Quart Setting
DMA359	110
DMA321	150
DMA311	194
DMA320	374
DMA304	784
DMA310	1004

NAVY BLUE LACQUER

SHERWIN-WILLIAMS 34-30720	
Mixing Code	1 Quart Setting
L4W-301	77.6
L4B-320	216.0
L4M-321	364.0
L4L-339	882.0

TEAL BLUE ENAMEL

DITZLER DAR3244	
Mixing Code	1 Quart Setting
DMR490	56
DMR410	132
DMR400	422
DMR414	822
DXR495	842
DMR499	1092

TEAL BLUE ENAMEL

SHERWIN-WILLIAMS 35-30721	
Mixing Code	1 Quart Setting
F5P-92	51.0
F5B-81	143.0
F5L-68	283.0
V6V-175	328.0
F5W-80	973.0

TEAL BLUE LACQUER

DITZLER DDL3244	
Mixing Code	1 Quart Setting
DMA357	26
DMA358	94
DMA375	234
DMA311	784
DMA310	994

TEAL BLUE LACQUER

SHERWIN-WILLIAMS 34-30721	
Mixing Code	1 Quart Setting
L4Y-303	4.6
L4B-320	41.8
L4M-321	106.8
L4L-309	218.0
L4W-301	934.0

CAMEO TAN ENAMEL

DITZLER DAR3245	
Mixing Code	1 Quart Setting
DMR490	20
DMR475	92
DMR486	396
DMR400	886
DXR495	906
DMR499	1266

CAMEO TAN ENAMEL

SHERWIN-WILLIAMS 35-30722	
Mixing Code	1 Quart Setting
F5B-81	31.3
F5E-86	68.3
F5Y-93	230.0
V6V-175	275.0
F5W-80	996.0

CAMEO TAN LACQUER

DITZLER DDL3245	
Mixing Code	1 Quart Setting
DMA358	16
DMA333	46
DMA329	306
DMA311	946
DMA310	1076

CAMEO TAN LACQUER

SHERWIN-WILLIAMS 34-30722	
Mixing Code	1 Quart Setting
L4B-320	16.0
L4E-317	45.8
L4Y-303	254.0
L4W-301	940.0

DARK BROWN METALLIC ENAMEL

DITZLER DAR3247	
Mixing Code	1 Quart Setting
DMR433	12
DMR435	24
DMR453	76
DMR452	128
DMR482	198
DMR490	308
DXR495	328
DMR476	1028

DARK BROWN METALLIC ENAMEL

SHERWIN-WILLIAMS 35-30724	
Mixing Code	1 Quart Setting
F5W-80	4.4
F5P-92	26.1
F5M-71	91.0
F5B-81	331.0
F5S-101	592.0
V6V-175	637.0
F5N-76	909.0

DARK BROWN METALLIC LACQUER

DITZLER	
Mixing Code	1 Quart Setting
N/A	

DARK BROWN METALLIC LACQUER

SHERWIN-WILLIAMS 34-30724	
Mixing Code	1 Quart Setting
L4M-321	23.8
L45-345	59.6
L4S-343	119.4
L4M-341	203.0
L4B-320	358.0
T1C-324	596.0
L4N-342	882.0

CARDINAL RED ENAMEL

DITZLER DAR3248	
Mixing Code	1 Quart Setting
DMR400	4
DMR491	36
DMR464	186
DXR495	206
DMR451	1086

CARDINAL RED ENAMEL

SHERWIN-WILLIAMS 35-30725	
Mixing Code	1 Quart Setting
F5B-81	7.7
F5P-92	416.0
V6V-175	461.0
F5E-86	954.0

CARDINAL RED LACQUER

DITZLER DDL3248	
Mixing Code	1 Quart Setting
DMA311	4
DMA336	404
DMA360	974

CARDINAL RED LACQUER

SHERWIN-WILLIAMS 34-30725	
Mixing Code	1 Quart Setting
L4B-302	1.8
L4M-321	400.0
L4E-317	920.0

CARAMEL ENAMEL

DITZLER DAR3249	
Mixing Code	1 Quart Setting
DMR490	26
DMR401	76
DMR486	386
DMR475	736
DXR495	756
DMR499	1036

CARAMEL ENAMEL

SHERWIN-WILLIAMS 35-30726	
Mixing Code	1 Quart Setting
F5W-80	108.0
F5Y-87	283.0
F5B-81	467.0
V6V-175	512.0
F5E-99	972.0

CARAMEL LACQUER

DITZLER DDL3249	
Mixing Code	1 Quart Setting
DMA309	8
DMA311	14
DMA333	324
DMA329	754
DMA310	1004

CARAMEL LACQUER

SHERWIN-WILLIAMS 34-30726	
Mixing Code	1 Quart Setting
L4B-320	72.8
L4W-301	180.0
L4Y-333	448.0
L4R-304	926.0

9-102-21A/J

Jeep

Diagnosis and Repair Bulletin

Subject: 1979 Silver Anniversary CJ-5 Model Paint Information	Application: 1979 CJ-5 Model	File: BODY Metal Repair - Painting - Water Leaks/Wind Noise REVISED No. 9-03 July 6, 1979

The June 18, 1979 issue of this bulletin was inadvertantly issued with the incorrect paint formulas. Please remove and discard that bulletin and insert this revised bulletin.

The CJ-5 Silver Anniversary Model has Quick Silver metallic (8C) color coat. The Ditzler and Sherwin-Williams intermix formulas are listed below. If a local jobber has difficulty in locating a formula, take this bulletin to the jobber for intermix formulation.

QUICK SILVER METALLIC ENAMEL

DITZLER P/N DAR3030

Mixing Code	1 Quart Setting
DMR414	3
DMR491	8
DMR433	253
DXR495	273
DMR499	1030

QUICK SILVER METALLIC ENAMEL

SHERWIN-WILLIAMS P/N F11A3909

Mixing Code	1 Quart Setting
F5L681	1.2
F5Y89	3.0
F5P92	6.6
F5W80	21.5
V6V175	66.0
F5S101	902.0

QUICK SILVER METALLIC LACQUER

DITZLER P/N DDL3030

Mixing Code	1 Quart Setting
DMA311	10
DMA373	12
DMA395	82
DMA358	88
DMA323	150
DMA310	1010

QUICK SILVER METALLIC LACQUER

SHERWIN-WILLIAMS P/N L11A3909

Mixing Code	1 Quart Setting
L4W301	4.1
L4S316	108.0
L4S345	212.0
T1C324	876.0

9-094-BSA/J

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Diagnosis and Repair Bulletin

Subject: Wind Noise or Water Leaks at Door Glass	Application: 1979 Wagoneer, Cherokee, and Truck Models	File: BODY Metal Repair - Painting - Water Leaks/Wind Noise No. 9-02 February 2, 1979

Some vehicles may have wind noise or water leaks around the door glass and glass slide channels. This may be caused by loose fitting door glass or a front door glass that may have been installed backwards.

Service correction involves inspecting the door glass for proper installation, correcting the door glass installation if necessary, and shimming the glass slide channel to limit the amount of glass-to-channel travel if necessary.

The following part is required and will be available after February 5, 1979. Do not order parts before this date.

Description	Quantity	Part No.	Group No.
SHIM, Glass Slide Channel	AR	8130721	25.020

INSPECTION/REPOSITIONING PROCEDURE

Inspect the window glass for the manufacturer's imprinted identification, L.O.F. If the identification is at the front of the glass by the vent window, the door glass must be repositioned so the identification is properly positioned at the rear of the glass above the inside door lock. Refer to page 3J-5 of the 1979 Jeep Technical Service Manual for removal and installation of door glass.

NOTE: *The inspection and possible repositioning applies to front door glass only.*

If repositioning of the front door glass does not correct the problem, proceed to "Door Glass Shimming Procedure."

DOOR GLASS SHIMMING PROCEDURE

(1) Lower door glass completely.

(2) Pull glass slide channel loose from door frame so that shim may be installed on vertical portion of door frame.

(3) Install shim(s) to rear, inner portion of front door frame and to forward, inner portion of rear door frame as required. Push glass slide channel back into door frame.

(4) Raise glass midway in slide channel and check fore/aft movement. Install additional shim(s) if necessary.

(5) Raise glass completely in slide channel.

The following operations and standard work times will apply:

OPERATION DESCRIPTION	WARRANTY REPORTING CODE	OPERATION NUMBER	MODEL	YEAR AND TIME			SKILL LEVEL
				77	78	79	
DOOR GLASS — INSPECT	**25.014**	**25041**	**WAG-CKE-TRK**			**0.1**	**G**
Door Glass Front — Reposition	**25.014**	**A**				**0.6**	
Shim, Door Glass Channel		**B**					
Front	**25.036**		**WAG-CKE-TRK**			**0.2**	
Rear	**25.038**		**WAG-CKE**			**0.1**	

9-037-BSJ

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Diagnosis and Repair Bulletin

Subject: Paint Information All 1979 Jeep Vehicles	Application: All 1979 Jeep Vehicles	File: BODY Metal Repair - Painting Water Leaks/Wind Noise No. 9-01 October 6, 1978

Attached is the DuPont color chart for all 1979 paint colors. Color name and code numbers are included in each chart.

This bulletin was sent to all Jeep dealers in reduced quantities. If additional quantities are required, contact your Zone Service Manager, or Service Representative.

9-011-21A/J

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Service Technical Letter

File: Service General
No. 80-18 Sept. 25,1980

Subject	Information
Sun Roof Sealer — 1980 Jeep Vehicles	On some late production Jeep vehicles equipped with a manually operated sun roof, a black butyl sealer was used to seal the area between the sun roof frame and roof panel. Whenever the sun roof frame has been removed, a butyl or silicone sealer may be used to seal the area between the sun roof frame and roof panel. Apply an even bead of sealer to the roof panel surface approximately 1/8 inch from the edge of the roof opening.
Standard Oil Filter Damaged During Severe Off-Road Operation — 1974-80 Jeep Cherokee-Wagoneer-Truck Models With Six-Cylinder Engine	A new oil filter, part number 3240511, has been released for use on 1974-80 Cherokee, Wagoneer, and Truck models. The filter is longer in length and has a smaller diameter for additional filter-to-engine mount area clearance during severe off-road operation.

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Service Technical Letter

File: Service General
No.80-16 July 28, 1980

Subject	Information
Two-Stage Power Valve - Carburetor Models 2100 and 2150 – 1978-80 Jeep Vehicles	Some of the two-stage power valves used in subject model carburetors have been replaced for what appears to be a leakage problem. Although a small amount of fuel may enter the power valve cover via the carburetor manifold vacuum chamber, it does not constitute a leak problem. This condition is normal and will not effect performance or economy.
Tire Vibration – 1979-80 131-Inch Wheelbase J-10 Truck Models Equipped With H78-15, Load Range B, Firestone Town and Country Tires	The subject tires may be the cause of unexplained vibration problems on 1979-80, long wheelbase J-10 trucks. If diagnosis and test procedures do not reveal any type of runout or imbalance condition, install a set of test tires other than Firestone on the vehicle and road test again. If the vibration is now corrected, contact the nearest Firestone regional service center.

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Service Technical Letter

File: Service General
No. 80-7 March 27, 1980

Subject	Information
Camshaft Spring Pin Correction — Six-Cylinder Camshaft Pin Breakage on 1977-80 Jeep Vehicles — DRB 80-3 dated February 4, 1980, Filed Under POWER PLANT-Engines	When performing the camshaft pin replacement procedure, order spring pin G456384. Do not order pin GM456384.

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Service Technical Letter

File: Service General
No. 80-5 Dec. 7, 1979

Subject	Information
Difficult Starting After Parking Overnight — Expanded Application of DRB 9-03, Power Plant, Fuel and Exhaust Systems	Some 1978-79 models with 6-cylinder engine and model YF carburetor may be difficult to start (long crank 8-12 seconds) after the car has been parked overnight. This is caused by fuel evaporating from the fuel bowl and lowering the fuel level. Installing a 115°F thermal check valve, part number 8129872, in the charcoal canister-to carburetor vent hose will shorten the cranking time to an acceptable lever (approximately 2-3 seconds). Refer to Diagnosis and Repair Bulletin No. 9-03, dated August 14, 1979. FILE: Power Plant, Fuel and Exhaust Systems for repair procedure and standard work time. NOTE: DRB 9-03 originally applied to 1979 models with a 232 CID 6-cylinder engine and 49-state emission controls. It now applies to all 1978 and 1979 models with 232 or 258 CID engines with model YF carburetor and 49-state or California emission controls.
Correction to Exploded View of Power Steering Pump	The exploded view of the power steering pump in the 1977 through 1980 AMC Technical Service Manuals shows the flow control valve facing in the wrong direction. The hex end of the flow control valve should be facing the valve spring and pump body. Circle the flow control valve and write "shown backwards" below it on the following Technical Service Manual pages. TSM — Figure Number — Page Number 1977 — 2H-181 — 2H-117 1978 — 2K-116 — 2K-77 1979 — 2K-116 — 2K-78 1980 — 2L-114 — 2L-75

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Service Technical Letter

File: Service General
No. 9-13 Aug. 31, 1979

Subject	Information
New Exhaust Manifold Gasket—Eight-Cylinder Engines	A new exhaust manifold gasket, part number 3237270, has been released for service and will be available after October 12, 1979. The gasket was designed for 1979-80 eight-cylinder engines which have 5/16-inch bolts at the two outer holes of each exhaust manifold (the inner bolts are 3/8 inch). This gasket may be used on 1971-78 eight-cylinder engines if the outer 5/16-inch holes in the gasket are enlarged to 3/8-inch with a round file. When using this gasket on 1971-78 engines, tighten the outer bolts to 20 ft. lbs. (27 N·m) torque. Note: This gasket is included in the 1980 Jeep advance parts order program.

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Service Technical Letter

File: Service General
No. 9-12 Aug. 23, 1979

Subject	Information
1979 CJ Model Revised Clutch Linkage Components	During mid-April production, the clutch linkage components for all CJ models were revised to lower the clutch pedal effort on V-8 engine equipped vehicles which have a previously released 2000 lb. clutch pressure plate. The new clutch linkage components will be found in Toledo built vehicles built after VIN J9XXXXX124961 and in Brampton built vehicles built after J9XXXXX837434. Part numbers for the clutch linkage components are listed below and are not interchangeable with the previous used components.

Description	Part Number	Group Number
BELLCRANK, Clutch Release Idler	5360104	5.168
PEDAL, Clutch	5359856	5.135
SPRING, Clutch	5357515	5.155
RETAINER, Brake Pedal (Sled Bracket)	8130726	8.164

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Service Technical Letter

File: Service General
No. 9-11 August 8, 1979

Subject	Information
Improved Door Rain Shield Rivet-1979 and Prior Cherokee, Wagoneer and Truck Models	An improved Delrin rivet for better retention of the rain shield located above the doors in the body opening entered production in July. The Delrin rivet is approximately 0.050-inch thicker in diameter than the previously used nylon rivet. Delrin rivets will be available as a replacement part after August 20, 1979. Do not order parts before this date. The part number is as follows: Description — Quantity — Part No. — Group RIVET, Rain Shield Attaching — AR — 4006637 — 23.012
1979 Jeep Warm Engine Operation Bulletins	Diagnosis and Repair Bulletin number 9-01, dated November 10, 1978 and filed under Power Plant/Fuel and Exhaust Systems outlines a procedure to install an EGR and Spark Control Kit on certain 1979 Jeep models. A supplement, Diagnosis and Repair Bulletin number 9-02, dated January 25, 1979, and filed under Power Plant/Fuel and Exhaust Systems, limits the use of the kit to vehicles built before VINs J9X15XX047200 and J9X25XX042459. Vehicles built after the published VINs were assembled with the kit components and neither of the referenced bulletins apply.

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Service Technical Letter

File: Service General
No. 9-10 July 24, 1979

Subject	Information
Replacement of Watershield Paper—1977-79 Cherokee-Wagoneer-Truck Models	In some instances when removing the door trim panel and watershield paper, the paper becomes damaged and must be replaced to prevent water leaks. Watershield paper and adhesive will be available as a replacement part after August 20, 1979. Do not order parts before this date. Part numbers are as follows:

Description	Qty.	Part No.	Group
Paper, Watershield Rear Door, Left	1	5464553	23.012
Paper, Watershield Rear Door, Right	1	5464554	23.012
Paper, Watershield Front Door,Left	1	5464555	23.012
Paper, Watershield Front Door, Right	1	5464556	23.012
Adhesive (Quantity Sufficient for One Door)	1	3624805	23.012

The Standard Servicing Operations and work times as published in the current SSO Manual are not affected by this bulletin.

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Service Technical Letter

File: Service General
No. 9-09 June 28,1979

Subject	Information
1979 Jeep Models — Severe Engine Spark Knock While Trailer Towing or During Heavy Load Operation	Severe engine spark knock may occur when towing a trailer or operating the vehicle with a heavy load during high ambient temperatures and low humidity. This condition may be corrected by using a premium grade unleaded fuel and resetting the initial ignition timing to the low side of the allowable adjustment range.

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Service Technical Letter

File: Service General
No. 9-08 June 19, 1979

Subject	Information
Antenna Splitter Box Relocation - 1979 Cherokee, Wagoneer, and Truck Models with C.B. Radio.	The antenna splitter box is now located on the inner cowl top panel to the left of the right side cowl panel and above the antenna cable access hole. It is attached to the cowl panel with double-coated tape.

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Service Technical Letter

File: Service General
No. 9-07 April 25, 1979

Subject	Information
New Latch and Striker Assembly — 1979 Cherokee-Wagoneer-Truck Doors and 1979 Cherokee-Wagoneer Tailgates	New door latch and lock striker assemblies are being used on 1979 Cherokee, Wagoneer, and Truck models. The new striker assembly is adjusted by loosening the Torx-head screws in the striker assembly and moving the assembly to the desired position on the body pillar. Tighten the Torx-bit screws to 18-30 ft. lbs. (24-40 N·m) torque. On 1979 Cherokee and Wagoneer model tailgates, the same type of latch is used as is found on the door. The striker is a stud-type with a Torx-head and is adjusted by loosening the striker, moving it to the desired position and then tightening the striker to 18-30 ft. lbs. (24-40 N·m) torque. Service parts are available and are identified as "Type 2" in the latest Jeep Parts Catalog. The Standard Servicing Operation and work times are not affected by these changes.

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Service Technical Letter

OF INTEREST TO:		File: Service General
☐ Dealer Principal	☒ Service Writer	
☒ Service Manager	☒ Mechanic	No. 9-06 March 30, 1979

Subject	Information
Frozen Door Handle Pushbutton Repair — 1978-79 Cherokee, Wagoneer, and Truck Models	Ice may accumulate on the outside door handle pushbutton on the subject vehicles making it inoperative. The following outlines the service correction for this condition. Thaw any ice that has accumulated on the push-button mechanism. Depress the button and spray a liberal amount of WD-40 penetrating lubricant, or equivalent, past the button using the small plastic spray tube. Repeat the operation on all door pushbuttons and allow 15 minutes to dry. After drying, repeat the above procedure using AMC/Jeep Silicone Lubricant (8993542) or equivalent.
Bronze Tone Tint Damage - CJ-7 Golden Eagle	CAUTION: If an aftermarket heated grid rear window defogger is installed on a bronze tone rear window, it will cause damage to the tint of the glass. Such installations are not approved.
Tire Size Capacity of Rear Swing-Out Spare Tire Carrier — 1976-79 CJ-5 and CJ-7 Models	Tires larger than the 9-15 LT Tracker must not be mounted on the swing-out spare tire carriers. The carrier may be damaged if larger than specified tires are installed.

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Service Technical Letter

OF INTEREST TO:		File: Service General
☐ Dealer Principal	☒ Service Writer	
☒ Service Manager	☒ Mechanic	No. 9-05 March 3, 1979

Subject	Information
Compression Pressure Specification Update — 1977-79 Six- and Eight-Cylinder Engines	The compression pressure specifications for 1977-79 six- and eight-cylinder engines have been updated. The pressure specifications for both six- and eight-cylinder engines are now 120 to 150 psi with a maximum allowable pressure variation between cylinders of 30 psi. The updated specifications should be noted in the 1977-79 Jeep Technical Service Manuals.
Roof Rack Moan — 1979 Wagoneer and Cherokee Models	A roof rack moan may be produced by the front end rail of the roof rack. The moaning noise can be eliminated by positioning the front end rail over the center stanchion with the large diameter of the end rail toward the front of the vehicle. NOTE: The roof rack moan is very similar to an axle noise. Be sure not to misdiagnose the noise.

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Service Technical Letter

OF INTEREST TO:

- ☐ Dealer Principal
- ☒ Service Manager
- ☒ Service Writer
- ☒ Mechanic

File: Service General

No. 9-04 January 25, 1979

Subject	Information
Forward Clutch Piston Center Seal - All Jeep Models With Hydramatic Transmission	A new forward clutch piston center seal was phased into production during the 1979 model year. The new seal is a lip-type unit and replaces the beveled edge-type seal previously used. The new seal is interchangeable with the old seal and can be used in current and prior model year automatic transmissions.
Engine Operation	Refinements have made emission control systems an integral part of engine operation. If these systems do not function properly, they may cause abnormal engine operation. For example: if the EGR valve is not functioning properly, the engine will ping or spark knock severely. If this condition is allowed to continue for a prolonged period of time, piston burning or scuffing may result.
Dashpot Adjustment - Addition to 1979 Jeep Technical Service Manual	A procedure has been developed for dashpot adjustment on all 1979 Jeep vehicles equipped with a manual transmission and a 258-2V or 304 CID California engine. The dashpot adjustment procedure should be noted in the 1979 Jeep Technical Manual at the bottom of page 1A-20 and is as follows. <u>Dashpot Adjustment</u> With the throttle set at curb idle position, fully depress the dashpot stem and measure the clearance between the stem and the throttle lever. The clearance should be 0.093 in. (2.362 mm) ± 0.015 in. on six-cylinder; ± 0.032 in (0.813 mm) on eight-cylinder. Adjust by loosening the locknut and turning the dashpot.

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Service Technical Letter

OF INTEREST TO:

- ☐ Dealer Principal
- ☒ Service Writer
- ☒ Service Manager
- ☒ Mechanic

File: Service General

No. 9-03 November 16, 1978

Subject	Information
Automatic Transmission Clutch and Band Application Chart	The chart used in the 1976 through 1979 Jeep Technical Service Manuals is incomplete. The chart should have shown that the Lo Clutch Roller is also applied in 2-range first gear. Correct the chart by inserting the necessary indicator dot as shown in the illustration.
Service Technical Letter No. 9-02, dated October 2, 1978 - All 1979 Jeep Models - Starter Solenoid With Blade Terminals	Eliminate the subject and information in the subject Service Technical Letter regarding blade-type starter solenoid terminals. Jeep vehicles have stud-type starter solenoid terminals only.

CLUTCH - BAND APPLICATION

	P	R	N	D			2		1
				1	2	3	1	2	
FORWARD CLUTCH				●	●	●	●	●	●
DIRECT CLUTCH		●				●			
FRONT BAND								●	
INTERMEDIATE CLUTCH					●	◉		●	
INTERMEDIATE ROLLER					●			●	
REAR BAND		●							●
LO CLUTCH ROLLER				●			●		●

◉ ON BUT NO EFFECT

Place dot here.

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Service Technical Letter

OF INTEREST TO:		File: Service General
☐ Dealer Principal	☒ Service Writer	
☒ Service Manager	☒ Mechanic	No. 9-02 October 2, 1978

Subject	Information
Service Technical Letter Number 8-07, dated September 28, 1978	The subject Service Technical Letter was inadvertently numbered 8-07. The correct number should be 9-01. Please make the necessary correction and file this Service Technical Letter in the Service General of your 1979 Diagnosis and Repair Bulletin binder.
All 1979 Jeep Models Equipped With Quadra-Trac—Transmission to Quadra-Trac O-Ring Seal	All Jeep Models equipped with Quadra-Trac built after August 4, 1978 and VIN J9A15NN009209 have an O-ring seal between the automatic transmission and Quadra-Trac mating surface. The Quadra-Trac housing has been machined to accept the O-ring seal that replaces the gasket previously used. Part numbers for the O-ring seal and Quadra-Trac assembly (w/O-ring seal) are as follows: Description — Quantity — Part No. — Group O-ring, Transfer Case to Transmission — 1 — 5359090 — 18.500 Transfer Case Assembly (WQT) — 1 — 8128994 — 18.500 NOTE: If the front half of Quadra-Trac housing needs replacing, you must order the old style housing (group 18.510-2, PN 8122386) and a gasket (group 18.500-3, PN 998315). The front half of the Quadra-Trac housing that is machined to accept the O-ring seal is not available as a replacement part at this time. (over)

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Service Technical Letter (cont'd)

Subject	Information
All 1979 Jeep Models — Starter Solenoid With Blade Terminals	The starter solenoid on the subject vehicles has blade type terminals attached to the S and I stud terminals. The addition of the blade terminals allows either an early or late style harness to be connected to the solenoid. CAUTION: Do not remove the blade type terminals on service applications that require the study type (push-on) terminals. Loosening the stud retaining nut may cause a loss of the internal connection and render the solenoid inoperative.
1978 Jeep Owner's Manual Supplement	Under separate cover, we have sent to all dealers several copies of a supplement to the Owner's Manual for 1978 Cherokees equipped with the Brush Guard accessory. In the event that you need additional copies, contact your local Zone Office.
1979 Jeep Technical Service Manual Correction	On pages 2E-6 and 2E-8 of the 1979 Jeep Technical Service Manual, tool number J-28488 appears twice on DARS Chart step 7 and step 12. This tool number should be J-24649. Please make the necessary correction.

Jeep

Service Technical Letter

OF INTEREST TO:		File: Service General
☐ Dealer Principal	☒ Service Writer	9-01
☒ Service Manager	☒ Mechanic	No. ~~8-07~~ September 26, 1978

Subject	Information
Early Built 1979 Cherokee and Wagoneer Models Equipped With a Bench-Style (One-Piece) Front Seat	Some early production 1979 Cherokee and Wagoneer models built with a black, russet, or desert beige vinyl covered, bench-style front seat may have incorrect listing material. The listing material is the fabric sewn to the bottom edge of the seat cover. When the seat cover is installed, the listing material is attached to the base of the seat frame with hog rings. In the event a vehicle is received with the seat cover pulled away from the base of the seat frame and the listing material is white, replace the seat cover. The following seat covers are available and can be ordered as required. Upholstery, Front Seat Cushion (Cover) Quantity — Color/Model/Part No. — Group 1 — Black (Wag) 5465153 — 29.152-1 Black (Cke) 5465197 1 — Russet (Wag) 5465155 — 29.152-1 1 — Russet (Cke) 5465217 1 — Desert Beige (Wag) 5465156 — 29.152-1 1 — Desert Beige (Cke) 5465199 The work time and operation number are available in the current Standard Servicing Operations Manual.
1979, 360 CID V-8 Engine Cold Engine Spark Knock	Some 1979, 360 CID V-8 engines may have a spark knock condition during the engine warm-up period. This condition is most noticeable during heavy or wide open throttle acceleration. Check the ignition timing to insure it is set to specification but do not try to correct this condition by making other adjustments or replacing parts. A service repair is being developed and will be released as soon as possible.

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