

DEALER TRAINING



PARTS & SERVICE DIVISION

AID NO.: S1067

SUBJECT: GM R-4 COMPRESSOR

MODEL: ROVER 3500 & TRIUMPH TR8

10/79

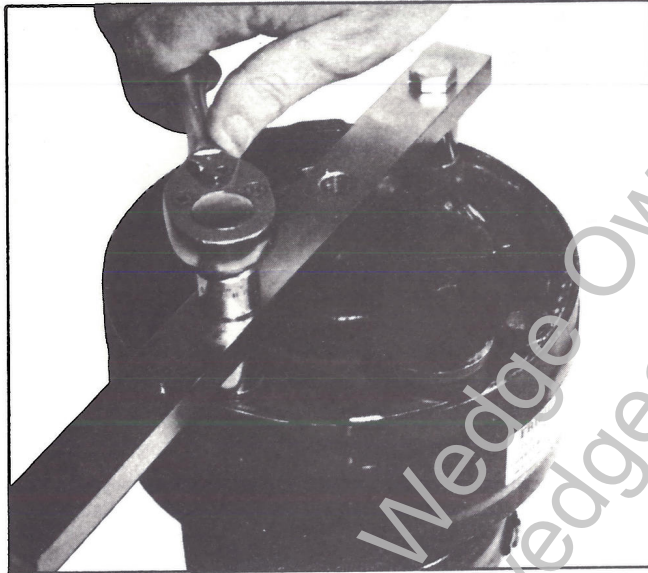


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GM R-4 COMPRESSOR

REPLACEMENT OF SHAFT SEAL

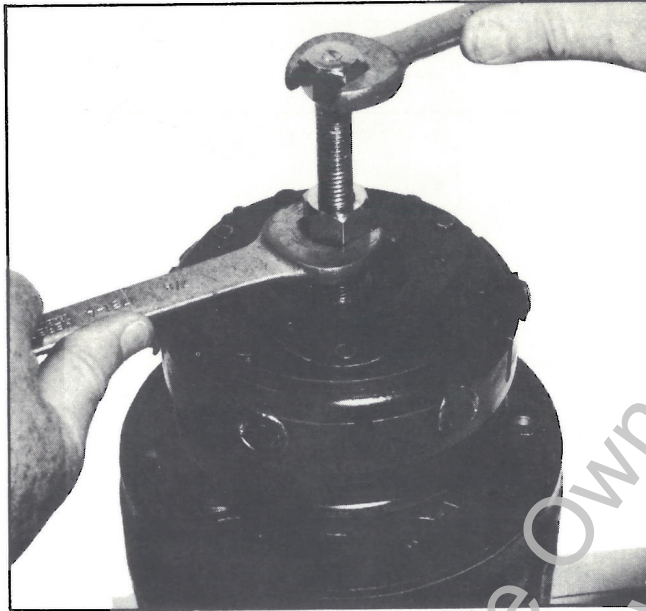
1. Discharge A/C system and remove compressor from engine.
2. Using suitable mounting jig (J-25008) or vise, secure compressor.



3. Remove the clutch drive plate and hub by first removing the 9/16" nut on the compressor shaft (J-9399 Thin Wall Socket and J-25030 Hub Holding Tool).



4. Screw hub puller (J-9401) into hub. Hold body of puller with a wrench, and tighten center screw of puller until drive plate, hub and key can be removed.



5. Remove the seal seat retaining ring using "Truarc #21 snap ring pliers or tool J-5403.
6. Thoroughly clean the compressor neck area and seal to avoid any contamination from entering compressor.
7. Install seal protector, J22974.
8. Insert seal seat removing tool J-23128 into recess in ceramic seal seat.

HAND TIGHTEN tool only and use a twisting motion to remove seal seat.



9. Using tool J-9392 engage tangs on tool with those on seal by rotating tool clockwise and pressing down. Seal can then be removed.

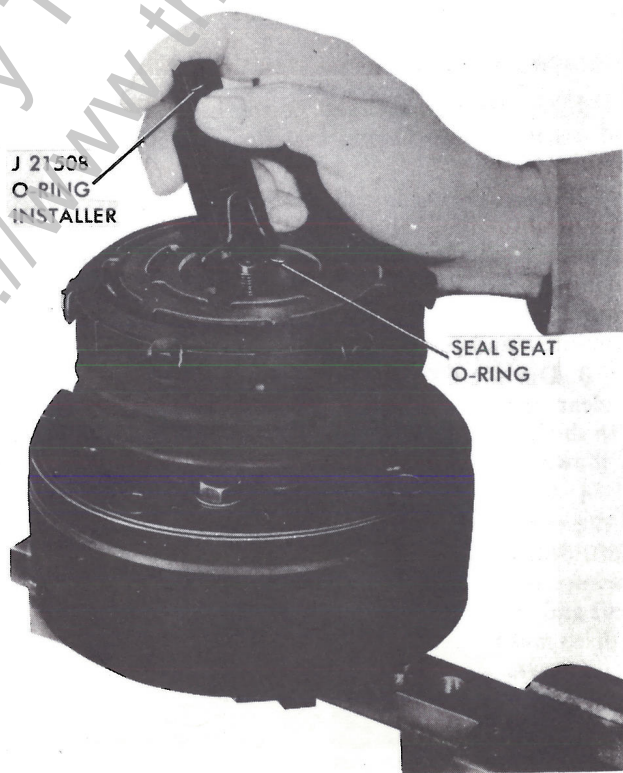


10. Using tool J-9553, or small probe, remove seal seat "O" ring.

INSTALLATION

NOTE: DISCARD FELT SLEEVE IF INCLUDED IN PARTS KIT WHEN SERVICING R-4 COMPRESSORS.

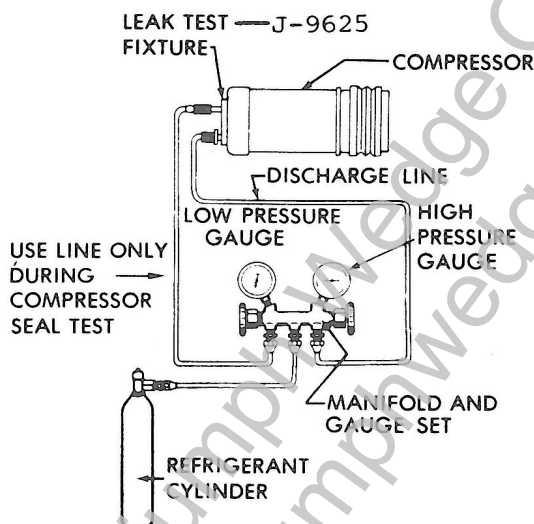
1. Thoroughly clean entire neck area of compressor.
2. Coat new seal seat "O" ring with refrigeration oil and install in (2nd) groove inside neck. Tool J-21508 may be used.



3. Install seal protector (J-22974) over shaft and carefully insert seal assembly using tool J-9392.
4. Coat the new seal seat with clean refrigeration oil and grip the seat with tool J-23128. Now, using a rotating motion, carefully lower the seat into position. NOTE: Do not force the seat, drop it, or allow it to "cock" as this will damage the ceramic. Ensure the "O" ring is in position. Carefully remove seat seal tool and seal protector.
5. Using "Truarc" #21 pliers (J-5403) install the seal seat retaining ring, flat face against the seal seat. Slowly press the ring down until it snaps into place. Do not tap it in, as this could chip the ceramic.

LEAK TEST

1. Install leak test fixture on rear head of compressor.



2. Attach center hose of gauge manifold set to a refrigerant drum standing in an upright position and open valve on drum.
3. Connect gauge set HIGH and LOW pressure lines to corresponding fittings on test fixture, using gauge adapters.

NOTE: SUCTION PORT OF COMPRESSOR HAS LARGE INTERNAL OPENING.
DISCHARGE PORT HAS SMALL INTERNAL OPENING INTO COMPRESSOR.

4. Open LOW pressure control, HIGH pressure control and REFRIGERANT control to allow refrigerant vapor to flow into compressor.
5. Using leak detector, check for leaks at pressure relief valve, compressor shell to cylinder, compressor front head seal, rear head seal, and oil charge port, and compressor shaft seal. After checking, shut off LOW pressure control and HIGH pressure control on gauge set.
6. If an external leak is present, perform the necessary corrective measures and recheck for leaks to make certain the leak has been corrected.

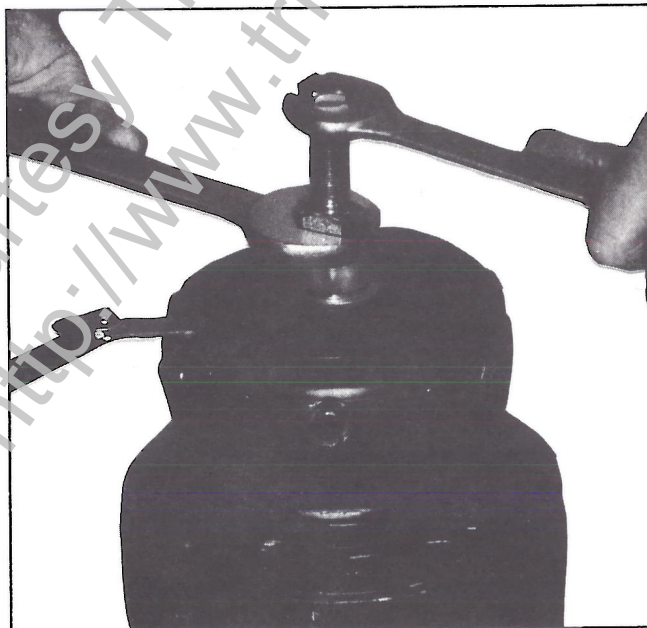
7. Loosen the manifold gauge hose connections to the gauge adapters connected to the LOW and HIGH side and allow the vapor pressure to release from the compressor.
8. Disconnect both gauge adapters from the test fixture and remove test fixture.

INSTALLING COMPRESSOR CLUTCH PLATE AND HUB ASSEMBLY

1. Insert the square hub drive key into the hub of the driven plate. Line up the slot in the hub with the key and carefully lower the hub.



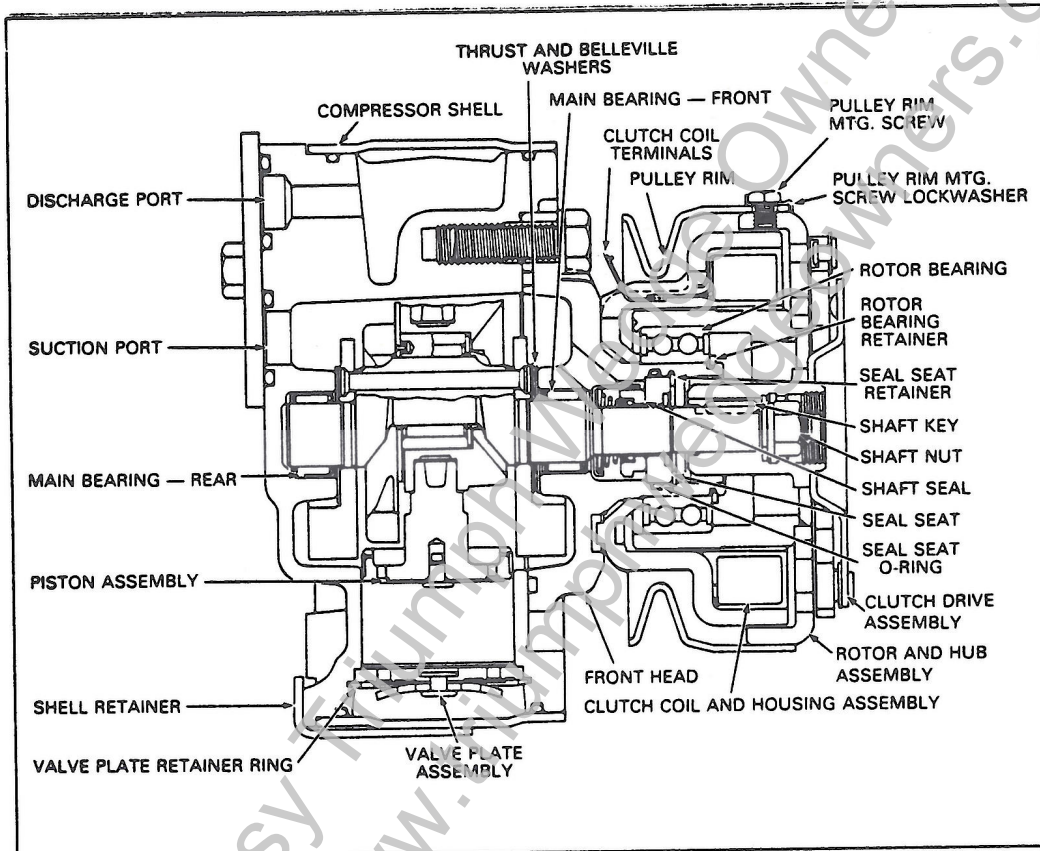
2. Position the drive plate installer, tool J-9480-1, on the threaded end of the shaft. The spacer J-9480-2 should be in place under the hex part of the tool.
NOTE: The body of this tool has a left hand thread.
3. Press the driven plate onto the shaft until there is approximately .020"-.040" clearance between the frictional faces of the clutch drive plate and pulley.



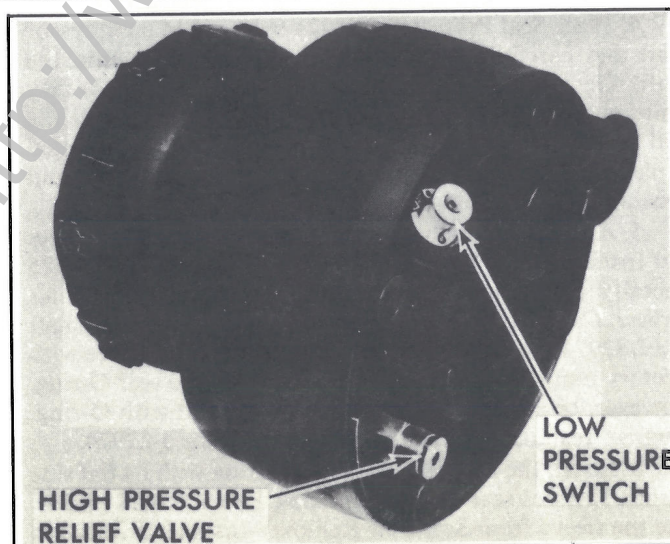
NOTE: Ensure hub key remains in place while pressing hub on shaft.

4. Using a 9/16" thin wall socket, install a new locknut and tighten to 14 ft/lbs. It may be necessary to use hub holding tool J-25030 if no other holding device is available. Re-check frictional face clearance.
5. Check the pulley for free operation.
6. Ensure compressor is full of refrigerant oil.
7. After installation, run engine at 2000 rpms with A/C on maximum. Cycle clutch approximately 20 times and check operation.

AIR CONDITIONING - R-4 COMPRESSOR DIAGRAM



R-4 COMPRESSOR RELIEF VALVE AND LOW PRESSURE SWITCH



SPECIAL TOOL LIST - G.M.

J-5403 #21 Snap Ring Pliers
J-9399 9/16" Thin Wall Socket
J-25030 Hub Holding Tool
J-9401 Clutch Plate and Hub Removing Tool
J-23128 Seal Seat Remover/Installer Tool
J-9392 Seal Remover/ Installer Tool
J-9553 "O" Ring Remover
J-21508 "O" Ring Installer
J-22974 Seal Protector
J-9625 Leak Test Adapter
J-9480 Clutch Plate and Hub Installer

TOOLS AVAILABLE FROM KENT-MOORE

G. M. PARTS LIST

*Shaft Seal Kit 9956695
(Includes)
Seal Assembly 6550955
"O" Ring 6555290
Retainer Ring 6556767
Seal Seat Assembly 6556300

*Shaft seal kit available from
Jaguar Rover Triumph Inc. under
same part number.