

A/C COMPRESSOR SERVICING

1994 Mitsubishi 3000GT

1994 AIR CONDITIONING & HEAT
Mitsubishi A/C Compressor Servicing

3000GT, Diamante, Eclipse, Expo, Galant, Mirage,
Montero, Pickup, Precis

* PLEASE READ THIS FIRST *

NOTE: Due to late changes, always refer to underhood A/C specification label in engine compartment or A/C compressor label while servicing A/C system. If A/C Specification label and specifications in this article differ, always use label specifications.

COMPRESSOR APPLICATION

COMPRESSOR APPLICATION TABLE

Application	Compressor
Diamante	Sanden MSC105 Scroll
Diamante Wagon	Nippondenso 10PA17C 10-Cyl.
Galant	Sanden AX105VS Scroll
Eclipse	Nippondenso 10PA17 10-Cyl.
Expo	Nippondenso 10PA17C 10-Cyl.
Pickup	Sanden MSC90C Scroll
Mirage	Sanden FX105V Scroll
Montero	Nippondenso 10PA15 10-Cyl.
Precis	Halla FX-15 10-Cyl.
3000GT	Sanden MSC105 Scroll

A/C COMPRESSOR REFRIGERANT SPECIFICATIONS

REFRIGERANT OIL & REFRIGERANT CAPACITY

REFRIGERANT OIL & R-134a REFRIGERANT CAPACITY TABLE

Application	(1) Oil Ounces	Refrigerant Ounces
Diamante	(2) 5.7-6.4	26.1-27.9
Diamante Wagon	(3) (4) 2.0-2.7	26.0-28.0
Eclipse	(3) 2.0-3.4	(5) 33.0
Expo		
1.8L Engine	(3) (4) 3.4-4.8	26.8
2.4L Engine	(3) (4) 2.0-3.4	26.8
Galant	(3) (2) 5.1-5.7	26.1-27.5
Mirage	(3) (2) 4.4-5.1	26.0-30.0
Pickup	(3) (2) 4.1-4.8	26.0-28.0
Montero	(3) (4) 2.7	21.0-23.0
Precis	(6) 6.9-7.7	24.0-25.0
3000GT	(2) 4.6-6.0	26.0-28.0

(1) - Total system capacity, unless otherwise noted.

(2) - Use SUN PAG 56 refrigerant oil.

(3) - Compressor refrigerant oil capacity.

(4) - Use DENSO/ND-Oil 8 refrigerant oil.

- (5) - Use R-12 refrigerant.
 - (6) - Use Daphne Hermetic FD46XG PAG oil.
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NOTE: Due to variety of clutch and shaft seal configurations, obtain appropriate A/C compressor service tools for compressor being serviced.

FORD (HALLA) FX-15

CLUTCH COIL

Removal

- 1) Using Clutch Holder (000 41 0812 05), remove clutch plate bolt. Using an 8-mm bolt threaded into clutch plate, remove clutch plate and shim(s). See Fig. 1.
- 2) Remove snap ring and pulley assembly. Install Shaft Protector (49 UN01 047) over shaft seal opening. Use a 2-jaw puller to remove clutch coil from compressor.

Installation

- 1) Ensure clutch coil mounting surface is clean. Use Coil Installer (49 UN01 046) and 2-jaw puller engaged to rear side of compressor front mounts to press coil into place.
- 2) Install pulley assembly. Install pulley assembly snap ring with bevel side of snap ring facing out. Install shim(s) and clutch plate. Install a new clutch plate bolt and tighten to 97-115 INCH lbs. (11-13 N.m).
- 3) Use a feeler gauge to check clearance between clutch plate and pulley assembly. Clearance should be .018-.030" (.46-.76 mm). If clearance is incorrect, add or remove shims as necessary.

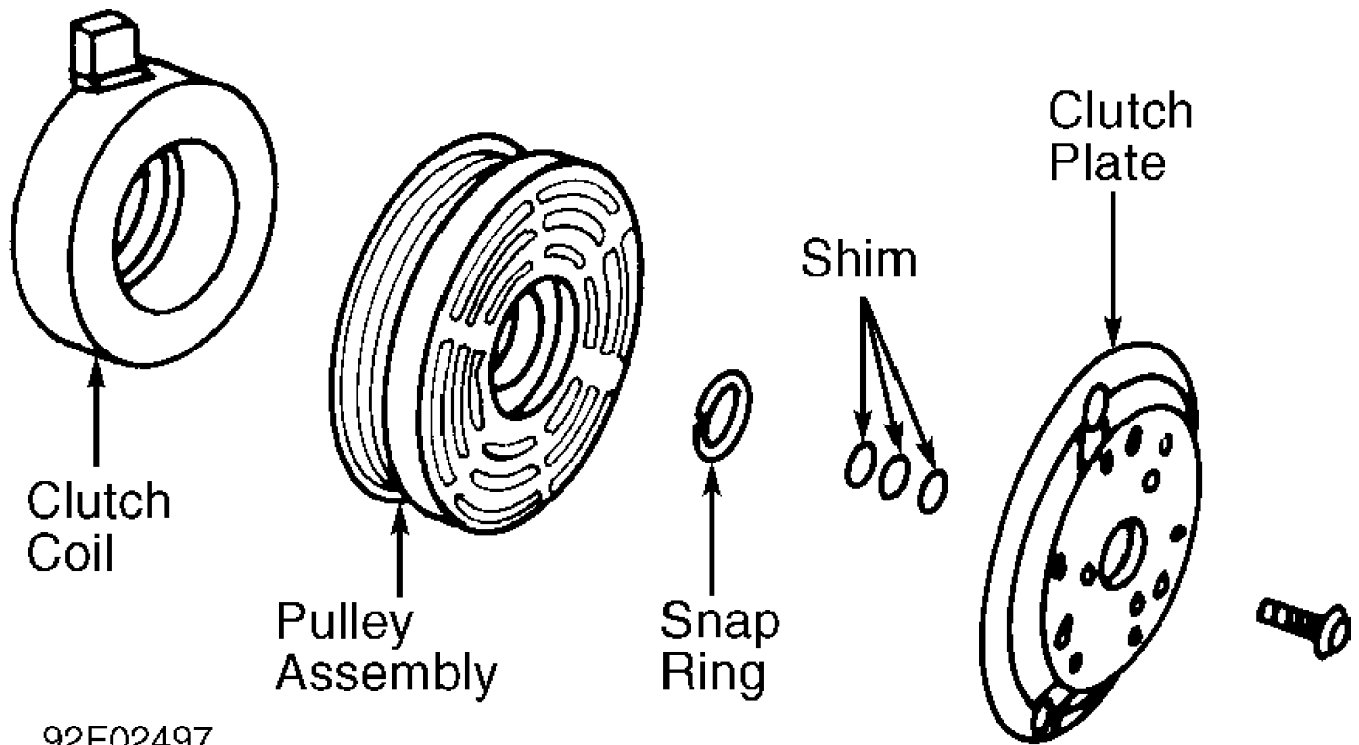
SHAFT SEAL

Removal

- 1) Using Clutch Holder (000 41 0812 05), remove clutch plate bolt. Using an 8-mm bolt threaded into clutch plate, remove clutch plate and shim(s). See Fig. 1.
- 2) Remove shaft felt seal. Thoroughly clean seal area of compressor. Remove shaft seal snap ring. Position Shaft Seal Remover (49 UN01 044) over compressor shaft.
- 3) Push shaft seal remover downward against seal. Ensure end of shaft seal remover is engaged with inside of seal. Rotate shaft seal remover clockwise to expand remover tip inside seal. Pull shaft seal from compressor.

Installation

- 1) Lubricate shaft seal protector and shaft seal with refrigerant oil. Install shaft seal on shaft seal protector so lip seal is toward compressor (large end of shaft seal protector).
- 2) Install shaft seal protector on compressor shaft. Using Shaft Seal Installer (49 UN01 043), push shaft seal down seal protector until seal is seated.
- 3) Remove shaft seal installer and protector. Install a new shaft seal retaining snap ring and shaft seal felt. Install shim(s) and clutch plate. Install a new clutch plate bolt and tighten to 97-115 INCH lbs. (11-13 N.m).
- 4) Use a feeler gauge to check clearance between clutch plate and pulley assembly. Clearance should be .018-.030" (.46-.76 mm). If clearance is incorrect, add or remove shims as necessary.



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Fig. 1: Exploded View Of Compressor Clutch (Ford FX-15)
Courtesy of Mazda Motors Corp.

NIPPONDENSO 10-CYLINDER

NOTE: Due to variety of clutch and shaft seal configurations, obtain appropriate A/C compressor service tools for compressor being serviced.

CLUTCH COIL & BEARING

Removal

1) Hold clutch plate stationary and remove shaft bolt (or nut). On Diamante Wagon, use a M8 x 40 mm bolt with 7/32" of the threaded end machined to a cone shape to remove clutch plate. On all other models, remove clutch plate using puller.

2) On all models, remove shim(s) from shaft and snap ring. Tap pulley off shaft with plastic hammer. If pulley cannot be removed by hand, use a puller.

3) Remove snap ring, bearing, and seal (if equipped) from pulley. See Fig. 2. Remove screw for clutch coil lead. Remove snap ring and clutch coil.

Installation

To install, reverse removal procedure. Ensure snap rings are installed with beveled side facing out. Tighten shaft bolt (or nut) to 10-13 ft. lbs. (14-17 N.m). Ensure air gap between clutch plate and pulley is .020" (.50 mm) on Diamante Wagon; .014-.026" (.36-.66 mm) on all others. If air gap is incorrect, add or remove shim(s) as necessary.

NOTE: On some compressors, it is necessary to use a dial indicator on clutch plate to check air gap. Apply voltage to clutch coil. Ensure air gap is as specified.

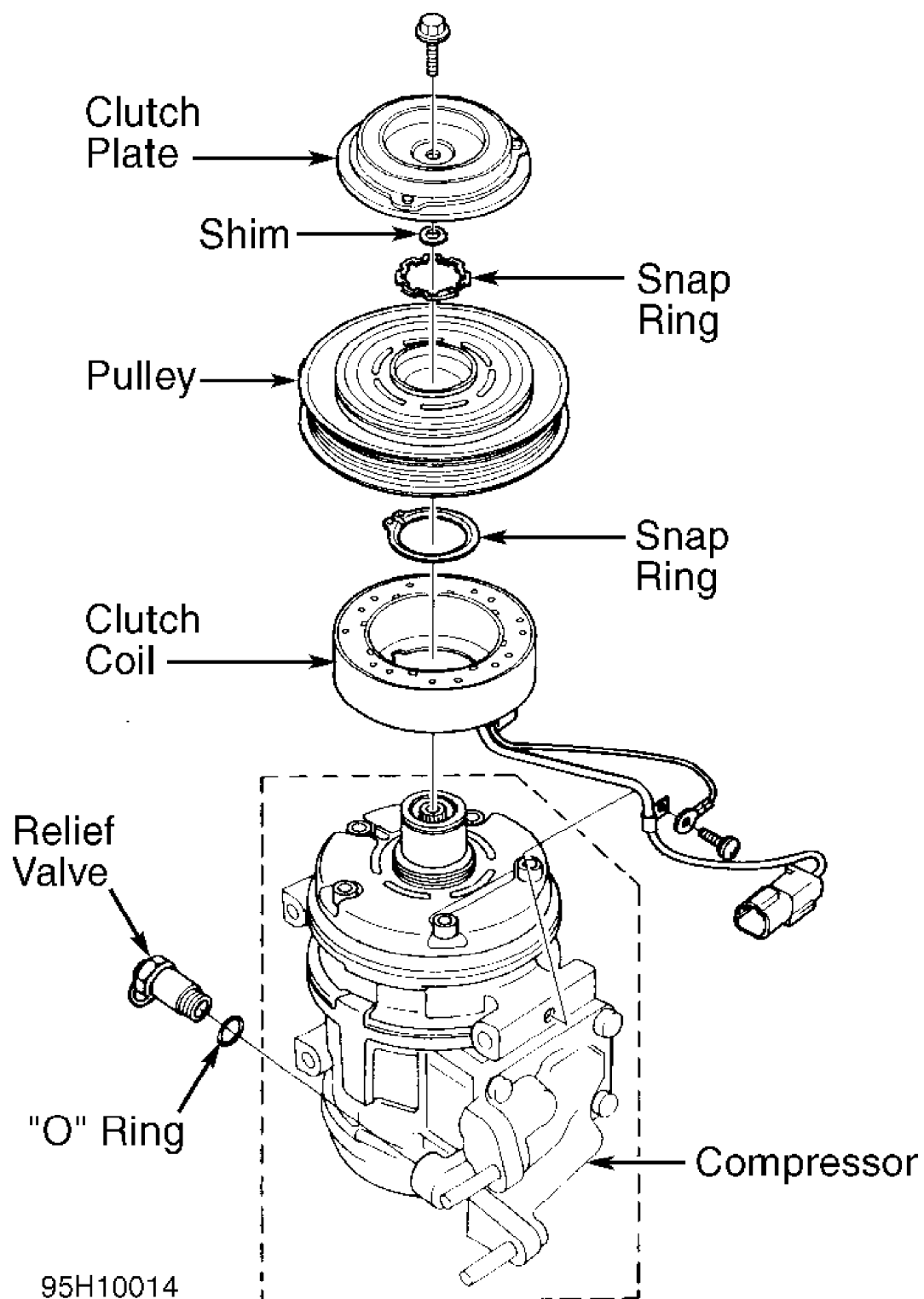


Fig. 2: Exploded View Of Nippondenso 10-Cyl. Compressor (Typical)
 Courtesy of American Honda Motor Co., Inc.

SHAFT SEAL

NOTE: Remove compressor through-bolts and front housing to remove shaft seal. See Figs. 3 and 4. Alternately tighten through-bolts to 18-21 ft. lbs. (24-28 N.m).

Removal

1) Remove clutch plate and pulley. Remove shim(s) from shaft. Remove clutch coil if necessary. Remove felt and felt retainer (if equipped). See Figs. 3 and 4. Place shaft key remover on shaft and turn to remove key.

2) Remove seal plate snap ring. Engage plate remover on seal plate, and pull up to remove seal plate. Engage shaft seal remover/installer to shaft seal, and pull up to remove shaft seal from front housing.

Installation

1) Apply clean refrigerant oil to compressor housing bore. Lubricate shaft seal with refrigerant oil and install in front housing. Lubricate seal plate and install in front housing.

2) Install shaft key, snap ring, felt retainer and felt. With clutch plate installed, ensure air gap between clutch plate and pulley is .020" (.50 mm) on Diamante Wagon; .014-.026" (.36-.66 mm) on all others. If air gap is incorrect, add or remove shim(s) as necessary.

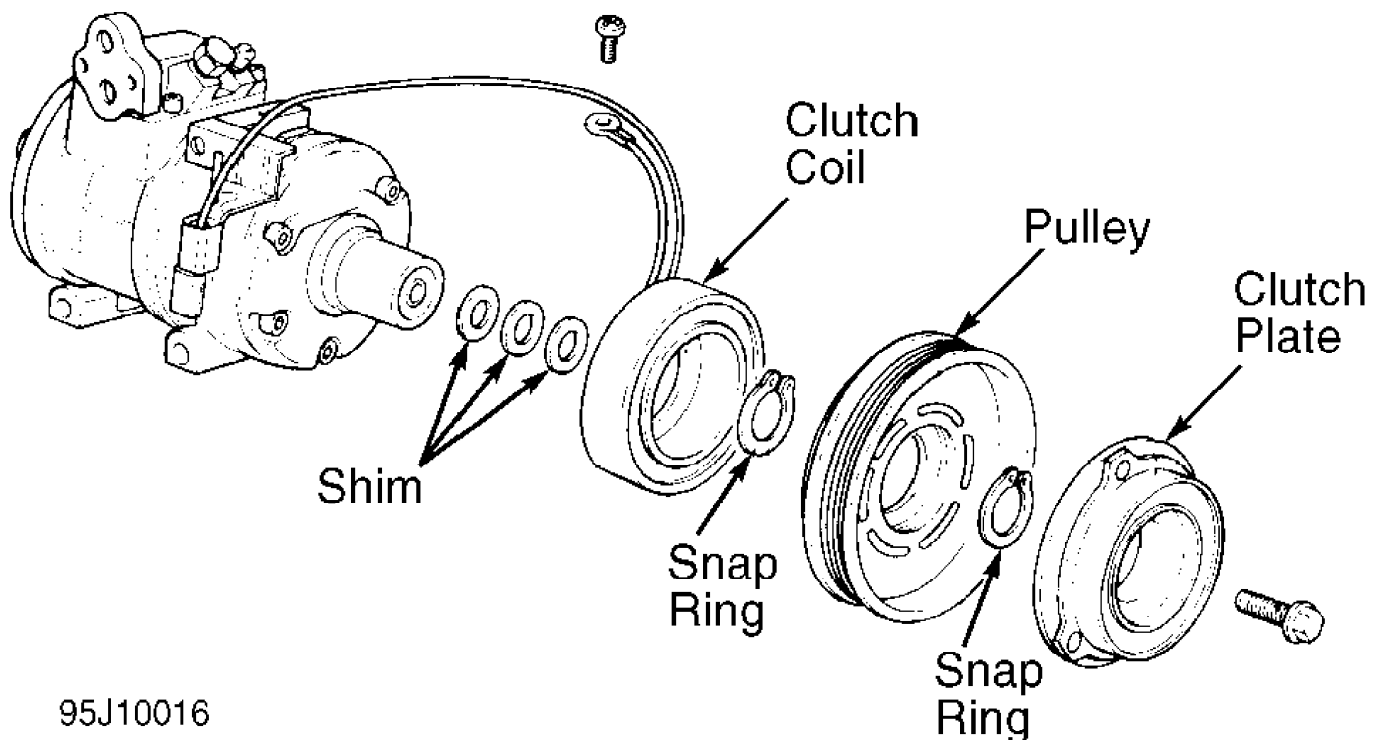


Fig. 3: View Of Nippondenso 10PA17C 10-Cyl. Compressor (Diamante Wagon & Expo)
Courtesy of Mitsubishi Motor Sales of America.

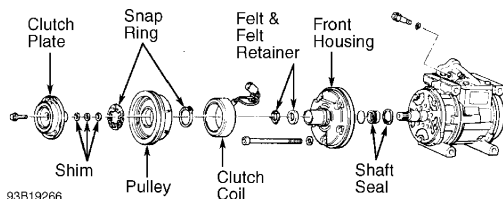


Fig. 4: View Of Nippondenso 10PA15 10-Cyl. Compressor (Montero)
Courtesy of Mitsubishi Motor Sales of America.

SANDEN SCROLL

CLUTCH COIL & SHAFT SEAL

NOTE: Due to variety of clutch and shaft seal configurations, obtain appropriate A/C compressor service tools for compressor being serviced.

Removal

1) Remove drive belt pulley (if equipped). Hold clutch plate using Pliers (MB991367) and Bolts (MB991386). Use a ratchet and socket to remove clutch hub nut.

2) Remove clutch plate. See Fig. 5. Remove snap ring with internal snap ring pliers. Remove clutch hub (rotor). Remove snap ring and clutch coil.

3) Using an awl, remove bearing cover and retainer. Using Bearing Remover (MB991456), engage bearing grooves. Place base of bearing remover over remover arms and tighten nut.

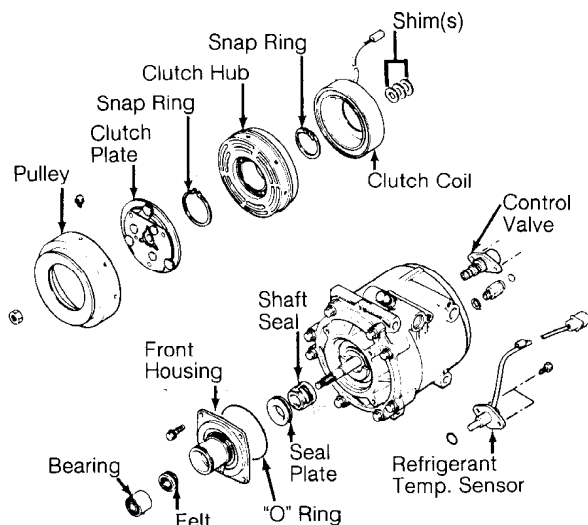
4) Tighten bearing remover bolt to withdraw bearing from compressor. Engage grooves of Shaft Seal Remover/Installer (MB991458) and pull straight up on shaft seal.

Installation

1) To install shaft seal, ensure front housing is free of foreign objects. Lubricate Shaft Seal Protector (MB991459) and place over compressor shaft. Lubricate shaft seal and install using shaft seal remover/installer. Remove shaft seal protector.

2) Using a 21-mm socket or Drift (MB991301), carefully press bearing onto compressor shaft. Install clutch coil so that alignment pin is engaged. Install clutch coil snap ring with tapered side facing out.

3) Align armature plate with crankshaft spline. Tighten shaft nut to 12 ft. lbs. (16 N.m). Using feeler gauge, ensure clearance between pressure plate and pulley is .016-.024" (.40-.60 mm). If clearance is incorrect, add or remove shim(s) as necessary.



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Fig. 5: Exploded View Of Sanden FX105V Scroll Compressor (Mirage)
Courtesy of Chrysler Corp.