

2007 TRANSMISSION**Automatic Transmission - Repair Instructions - Cooper****00 TRANSMISSION ASSEMBLY****00 DANGER OF POISONING IF OIL IS INGESTED/ABSORBED THROUGH THE SKIN****Danger of poisoning!**

Ingesting oil or absorbing through the skin may cause poisoning!

Possible symptoms are:

- Headaches
- Dizziness
- Stomach aches
- Vomiting
- Diarrhoea
- Cramps/fits
- Unconsciousness

Protective measures/rules of conduct:

- Pour oil only into appropriately marked containers
- Do not pour oil into drinking vessels (drinks bottles, glasses, cups or mugs)
- Observe country-specific safety regulations

First aid measures:

- Do not induce vomiting.

If the person affected is still conscious, he/she must rinse out their mouth with water, drink plenty of water and consult a doctor immediately.

If the person affected is unconscious, do not administer anything by mouth, place the person in the recovery position and seek immediate medical attention.

00 RISK OF INJURY IF OIL COMES INTO CONTACT WITH EYES AND SKIN**Danger of injury!**

Contact with eyes or skin may result in injury!

Possible symptoms are:

- Impaired sight
- Irritation of the eyes
- Reddening of the skin
- Rough and cracked skin

Protective measures/rules of conduct:

- Wear protective goggles
- Wear oil-resistant protective gloves
- Observe country-specific safety regulations

First aid measures:

- Eye contact: Rinse eyes immediately with plenty of water for at least 15 minutes; if available, use an eye-rinsing bottle. If irritation of the eyes persists, consult a doctor.
- Skin contact: Wash off with soap and water immediately. If irritation persists, consult a doctor.

NOTE: Do not use solvents/thinners.

00 SAFETY INSTRUCTIONS FOR HANDLING OIL

WARNING: Refer to 00 DANGER OF POISONING IF OIL IS INGESTED/ABSORBED THROUGH THE SKIN and 00 RISK OF INJURY IF OIL COMES INTO CONTACT WITH EYES AND SKIN.

Recycling:

Observe country-specific waste-disposal regulations.

Measures if oil is unintentionally released:

- Personal precautionary measures: Danger of slipping! Keep non-involved persons away from the work area. Wear personal protective clothing/equipment.
- Environmental protection measures: Prevent oil from draining into drain channels, sewerage systems, pits, cellars, water and the ground.
- Limiting spread: Use oil blocks to prevent the surface spread of oil.
- Cleaning procedure: Bind and dispose of escaped oil with nonflammable absorbents.

NOTE: Do not flush oil away with water or aqueous cleaning agents.

23 .. UNIVERSAL TRANSMISSION BRACKET**Special tools required:**

- 00 2 030
- 23 4 150

NOTE:

- Suitable for manual and automatic transmissions

IMPORTANT: Supports (1) can be laterally adjusted by means of screws (2).
Carrier (3) of rear supports (1) can be longitudinally adjusted by means of screw.
Supports must be adapted in length and width to the transmission.

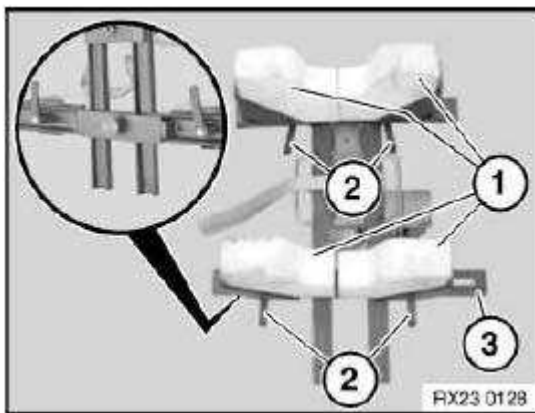


Fig. 1: Identifying Carrier, Rear Supports And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Supporting transmission:

Support transmission with special tools 23 4 150 , 00 2 030 .

Joint (1) for height adjustment.

Joint (2) for inclination angle adjustment.

IMPORTANT: Transmission *must* be secured with tensioning strap (3).

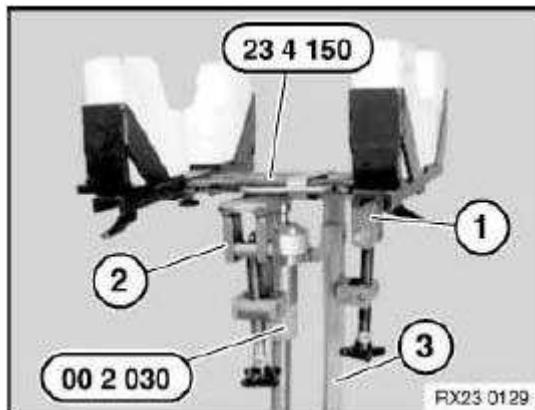
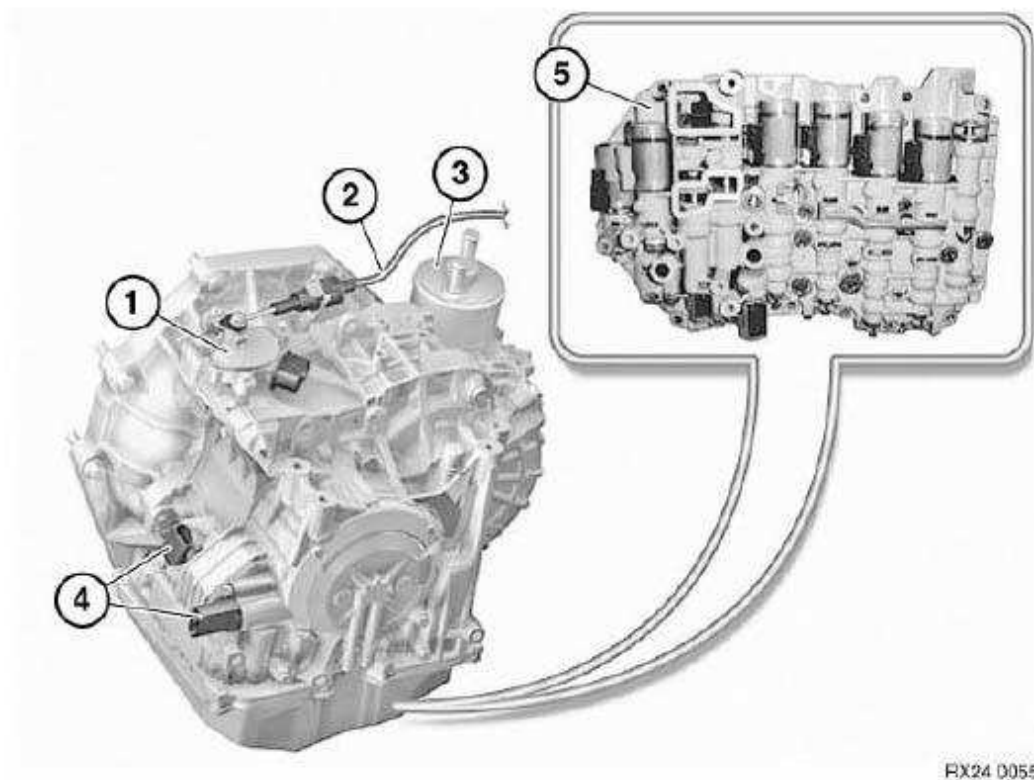


Fig. 2: Identifying Special Tool (23 4 150 & 00 2 030)
Courtesy of BMW OF NORTH AMERICA, INC.

24 00 ... OVERVIEW OF TRANSMISSION HOUSING (AISIN)



RX24 0055

- | | |
|--|--|
| 1 Transmission position switch | 2 Bowden cable to selector lever |
| 3 Transmission oil cooler | 4 Multiple connectors, EGS control unit |
| 5 Hydraulic selector unit | |

Fig. 3: Identifying Transmission Housing Components (Aisin)
Courtesy of BMW OF NORTH AMERICA, INC.

24 00 031 REMOVING AND INSTALLING TRANSMISSION (AISIN)**Special tools required:**

- 00 2 030
- 23 4 150

NOTE: After completion of work, check transmission fluid level.

IMPORTANT: Use only the approved automatic transmission fluid in this automatic transmission.

Failure to comply with this requirement will result in serious damage to the automatic transmission!

IMPORTANT: An incorrectly adjusted gearshift mechanism can result in gear teeth noises being transmitted to the passenger compartment.

Adjust selector lever. See GEAR SHIFT MECHANISM - REPAIR INSTRUCTIONS - 2007 HATCHBACK

Necessary preliminary tasks:

- Switch off ignition.
- Disconnect battery.
- Remove air intake filter housing.
- Remove intake filter housing gaiter.
- Drain coolant.
- Secure engine in installation position.
- Lower front axle support.
- Remove catalytic exhaust-gas converter (diesel W16 only)
- Remove starter.
- Remove rubber mounts for transmission mounting.
- Remove left output shaft.
- Remove right output shaft.

Only on diesel engine (W16)

Remove stud bolt (1) on transmission side for securing catalytic converter.

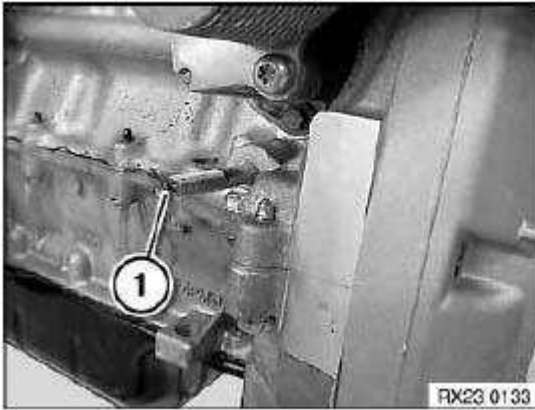


Fig. 4: Identifying Stud Bolt
Courtesy of BMW OF NORTH AMERICA, INC.

Only on diesel engine (W16)

Unscrew nut (1).

Release holder (2) from engine.

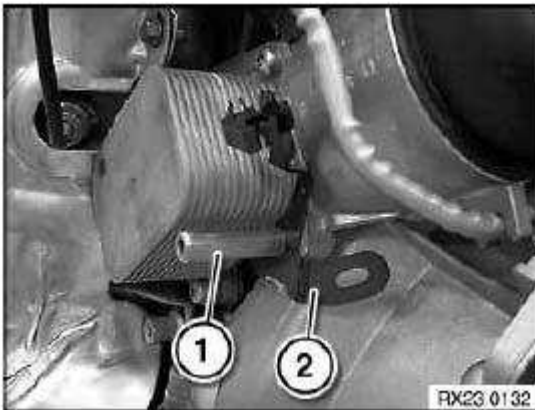


Fig. 5: Identifying Holder And Nuts
Courtesy of BMW OF NORTH AMERICA, INC.

Unfasten hose clips.

Disconnect coolant hoses (1) from oil cooler.

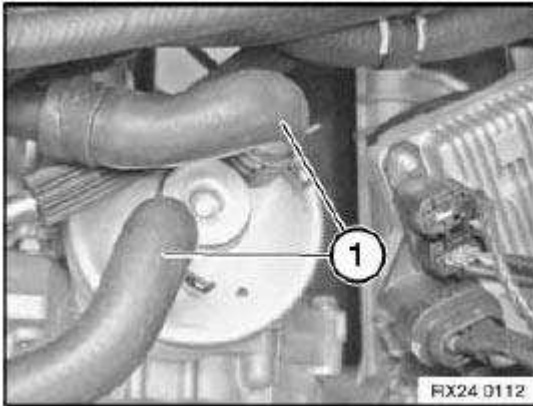


Fig. 6: Identifying Coolant Hoses

Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect multiple connectors (1/2) of EGS control unit.

Remove wiring harness.

Pay attention to routing of wiring harness.

NOTE: Illustration similar.

Engine shown removed.

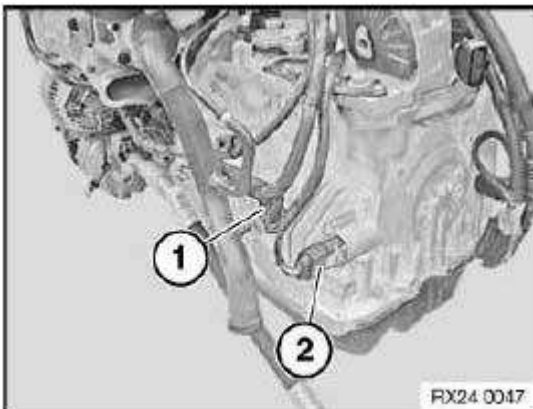


Fig. 7: Identifying Multiple Connectors

Courtesy of BMW OF NORTH AMERICA, INC.

Release cable lock nut (1).

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

Installation:

Adjust selector lever

NOTE: Illustration similar.

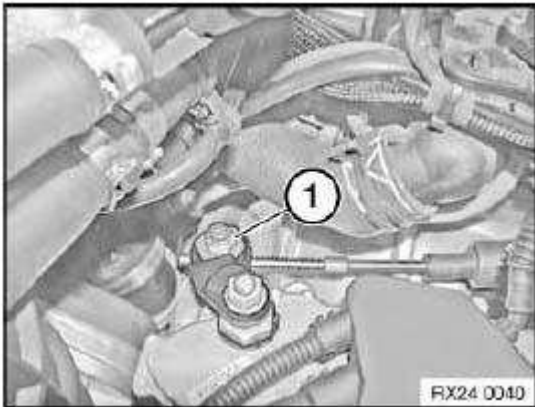


Fig. 8: Identifying Cable Lock Nut
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug (1) from gear position switch.

Remove hose (2) from holder.

Slide cable locking sleeve (3) in direction of arrow.

Remove cable upwards from holder.

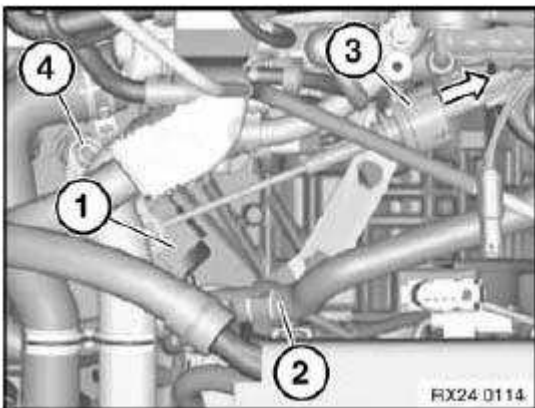


Fig. 9: Identifying Plug, Cable Locking Sleeve And Hose
Courtesy of BMW OF NORTH AMERICA, INC.

Supporting transmission:

Support transmission with special tools 23 4 150 and 00 2 030 .

Secure transmission with tensioning strap (3).

Tasks are described in **TRANSMISSION BRACKET**.

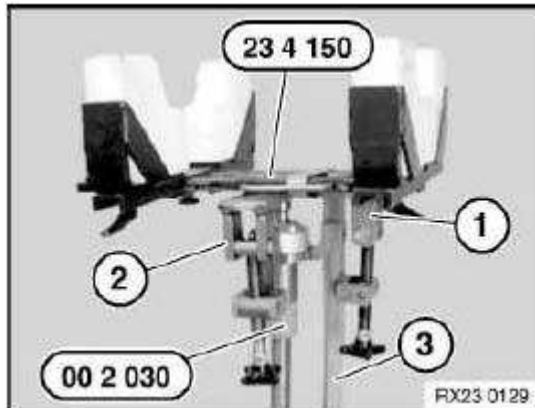


Fig. 10: Identifying Special Tool (23 4 150) And (00 2 030)
Courtesy of BMW OF NORTH AMERICA, INC.

Release nut (1) through opening for starter.

Crank engine further and release remaining 5 nuts.

Bolt connection, converter:

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

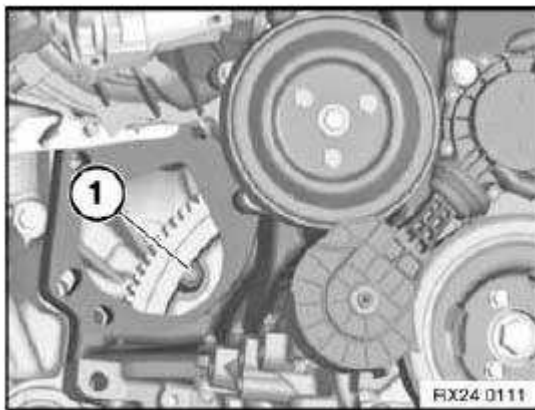


Fig. 11: Identifying Nut
Courtesy of BMW OF NORTH AMERICA, INC.

Release bolts and remove transmission.

IMPORTANT: Transmission mounting bolts differ in length.

Note installation position.

Installing the wrong bolts may cause serious damage.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

Installation:

Check that dowel sleeves are correctly seated.

Replace damaged dowel sleeves.

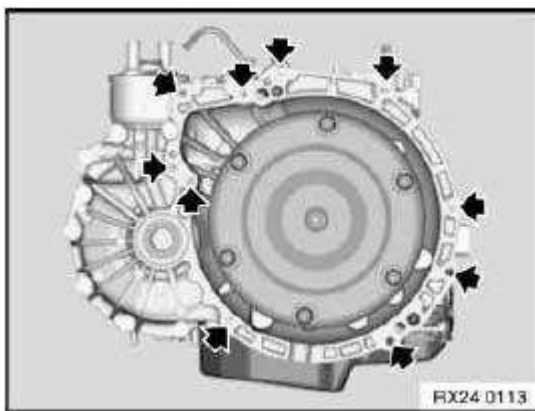


Fig. 12: Locating Dowel Sleeves

Courtesy of BMW OF NORTH AMERICA, INC.

24 00 051 INSTALLING REPLACEMENT TRANSMISSION (AISIN)

**IMPORTANT: Before installing replacement transmission:
After completing work:**

- **Check oil level.**

Use only the approved automatic transmission fluid.
- **Reset adaptation values.**
- **Perform clutch and gear ratio adaptation.**

Failure to comply with this requirement will result in serious damage to the automatic transmission!

Recycling:

Catch and dispose of escaping transmission fluid.

Observe country-specific waste-disposal regulations

Necessary preliminary tasks:

- Remove automatic transmission.

Convert following parts from previous transmission to new transmission.

- Converter, transportation lock (1).
- Holder, shift cable (R56 only)

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

- Bracket with retaining clips for wiring harness
- Transportation plate
- Transmission carrier with transmission bearing block (not R56)

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

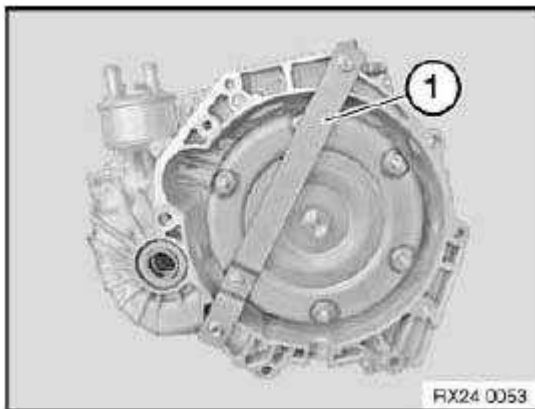


Fig. 13: Identifying Transportation Lock
Courtesy of BMW OF NORTH AMERICA, INC.

11 TRANSMISSION CASE, OIL

23 11 TRANSMISSION DESIGNATIONS

Breakdown of MINI designation:

Manual transmission:

TRANSMISSION DESIGNATIONS CHART

2008 MINI Cooper**2007 TRANSMISSION Automatic Transmission - Repair Instructions - Cooper****GS5-65 BH/SH**

G	Transmission	
S	Transmission type	○ S = Manual transmission ○ A = Automatic transmission
5	Number of forward gears	
65		
B	Gear set	○ B = Petrol/gasoline gear ratio ○ D = Diesel gear ratio
H	Code letter of transmission manufacturer	○ H = Midland ○ G = Getrag ○ Z = ZF (Zahnradfabrik Friedrichshafen)

Automatic transmission:

AUTOMATIC TRANSMISSION SPECIFICATION

GACVT 16Z (CVT) Automatic		
G	Transmission	
A	Transmission type	○ S = Manual transmission ○ A = Automatic transmission
CVT		Electronically controlled continuously variable automatic transmission
16		○ Manufacturer's code number
Z	Code letter of transmission manufacturer	○ Z = ZF (Zahnradfabrik Friedrichshafen)

TRANSMISSION MANUFACTURER CHART

GA6F21 WA Automatic		
G	Transmission	
A	Transmission type	○ S = Manual transmission ○ A = Automatic transmission
6	Number of forward gears	
F21		○ Manufacturer's code number
WA	Code letter of transmission manufacturer	○ A = AISIN

Manual transmission:

MANUFACTURER DESIGNATION CHART

MINI designation	Manufacturer	Manufacturer designation	Remark
GS5-65BH	Midland	R65	R50
GS6-85DG	Getrag	G285D	R50

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GS6-85BG	Getrag	G285	R53
GS5-52BG	Getrag	G252	R50/52
GS6-53BG	Getrag	G253	R56 N14 engine
GS6-55BG	Getrag	G255	R56 N12 engine
GS6-53DG	Getrag	G253	R56 W16 engine

Automatic transmission:

MANUFACTURER DESIGNATION CHART

MINI designation	Manufacturer	Manufacturer designation	Remark
GA CVT 16Z	ZF	ECVT	R52
GA 6F21 WA	AISIN	F21	R52/53

24 11 012 REMOVING AND INSTALLING/SEALING OR REPLACING TRANSMISSION FLUID SUMP (AISIN)

Necessary preliminary tasks:

Secure engine in installation position.

Raise engine and transmission.

NOTE: After completion of work, check transmission fluid level.

Make a note of drained ATF quantity.

Required replenishment quantity approx. 4.5 liters.

IMPORTANT: Use only the approved automatic transmission fluid in this automatic transmission.

Otherwise the automatic transmission may incur extensive damage!

Do not drain fluid before the transmission has cooled down.

Remove underbody protection (1).

Release screw (2).

Drain off transmission fluid.

Unscrew bolt (3).

Drain off transmission fluid.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

Installation:

Replace seals.

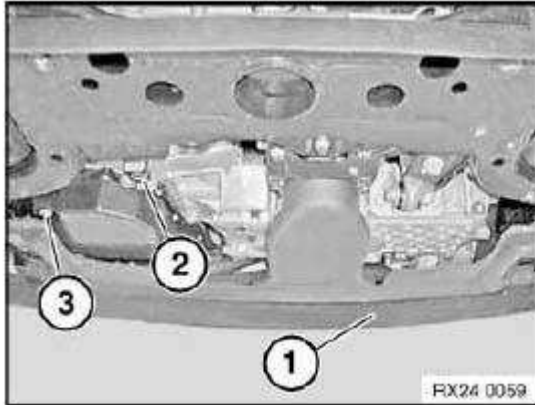


Fig. 14: Identifying Underbody Protection And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

Twist sump tube (1) out of transmission fluid sump and drain remaining transmission fluid.

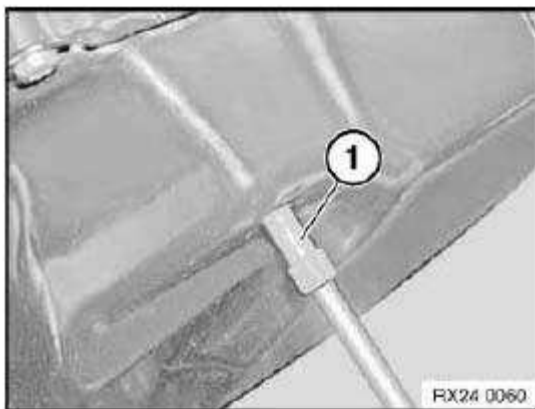


Fig. 15: Identifying Sump Tube
Courtesy of BMW OF NORTH AMERICA, INC.

Release bolt with Torx head (1).

Remove remaining mounting bolts from transmission fluid sump and remove sump.

Remove sump gasket.

Clean sealing surfaces.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

Installation:

Clean gasket.

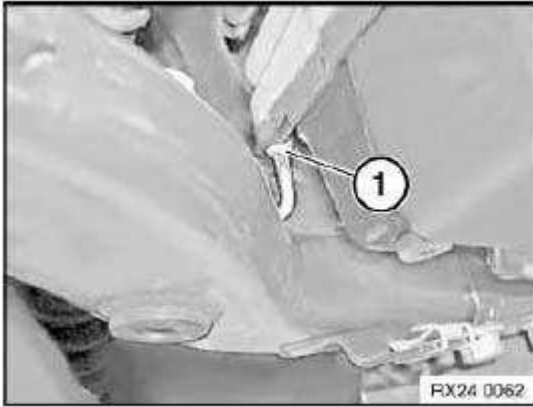


Fig. 16: Locating Torx Head Bolt
Courtesy of BMW OF NORTH AMERICA, INC.

Clean sump magnets (1) and insert in new transmission fluid sump.

Screw sump tube (2) at distance (A)

R25/R53: 50.05-50.75 mm

R56: 37.35-38.05 mm into new transmission oil sump.

Fit oil drain plug with new seal.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

IMPORTANT: Do not tighten sump tube too tightly.

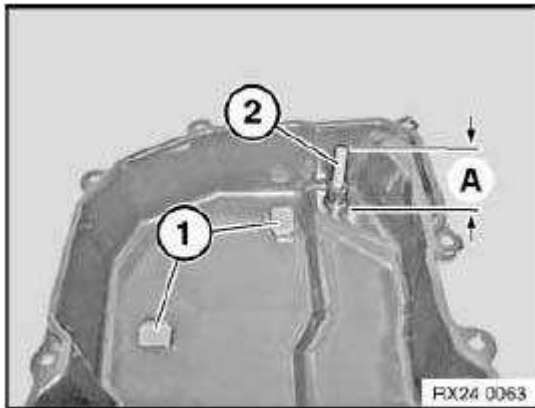


Fig. 17: Identifying Sump Magnets And Sump Tube
Courtesy of BMW OF NORTH AMERICA, INC.

24 11 040 REMOVING AND INSTALLING/REPLACING TRANSMISSION FLUID COOLER (AISIN)

IMPORTANT: After completion of work, check transmission fluid level.
Use only the approved transmission fluid.

Failure to comply with this requirement will result in serious damage to the automatic transmission!

IMPORTANT: No dirt is allowed to enter the oil circuit.

Failure to comply with this requirement will result in serious damage to the automatic transmission!

Necessary preliminary tasks:

- Drain coolant
- Remove intake filter housing
- Remove intake filter housing gaiter.

Unfasten hose clips.

Detach coolant hoses (1) from transmission fluid cooler.

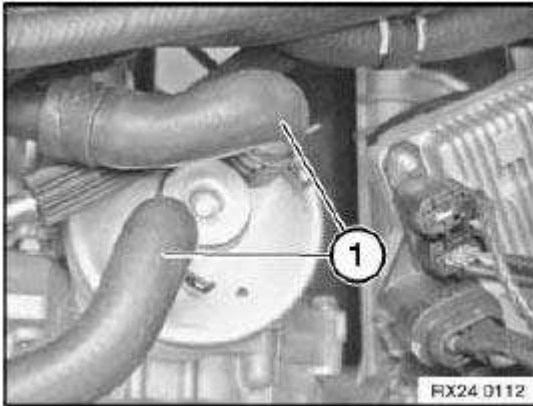


Fig. 18: Identifying Coolant Hoses

Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

Installation:

Pay attention to position lug (2).

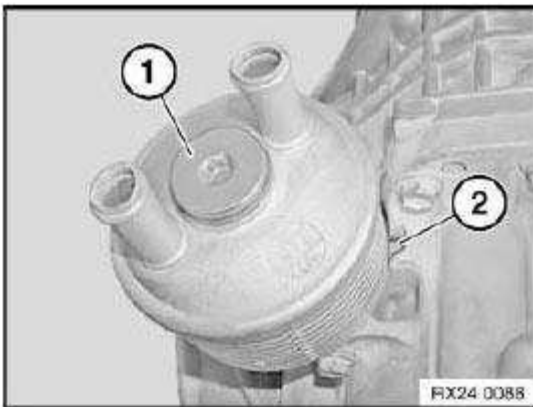


Fig. 19: Identifying Lug And Screw

Courtesy of BMW OF NORTH AMERICA, INC.

Replace sealing ring (1).

Installation:

Clean contact surfaces.

Moisten sealing ring (1) with clean transmission fluid.



Fig. 20: Identifying Sealing Ring

Courtesy of BMW OF NORTH AMERICA, INC.

Replace sealing ring (1).

Installation:

Clean contact surfaces.

Moisten sealing ring (1) with clean transmission fluid.

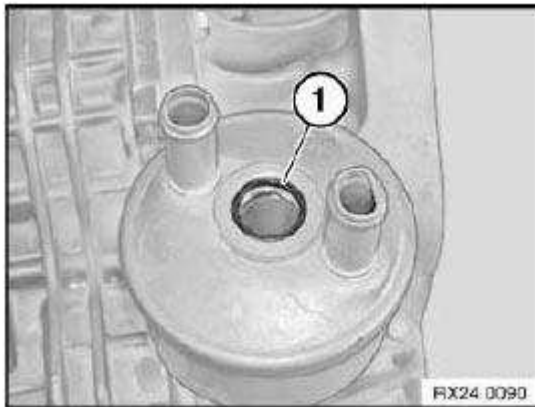


Fig. 21: Identifying Sealing Ring

Courtesy of BMW OF NORTH AMERICA, INC.

24 11 170 REPLACING TRANSMISSION BREATHER

IMPORTANT:

- Check breather for completeness after removal.
- Broken-off breather retaining lugs will result in serious damage to and failure of the automatic transmission.

Necessary preliminary tasks:

Remove rubber mounts for transmission mounting.

Remove hose from holder (1).

Lever breather (2) out of transmission case with a suitable tool.

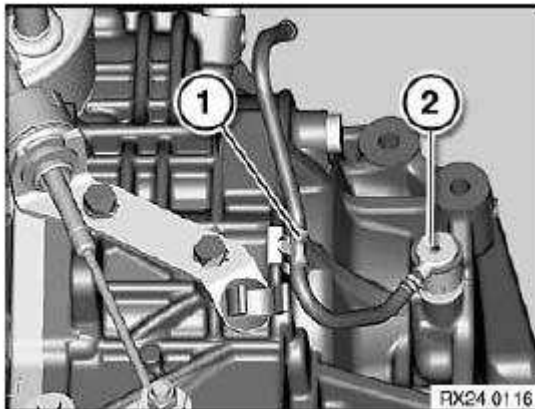


Fig. 22: Identifying Holder And Breather
Courtesy of BMW OF NORTH AMERICA, INC.

Check breather for completeness.

Retaining lugs (1) must not be broken off and be left behind in the transmission.



Fig. 23: Identifying Lugs
Courtesy of BMW OF NORTH AMERICA, INC.

24 21 515 REPLACING RADIAL SHAFT SEAL FOR DRIVE SHAFT (AISIN)

Special tools required:

- 00 5 010
- 24 4 250

NOTE: Transmission removed!

Remove torque converter.

Pull off radial shaft seal with special tool 00 5 010 .

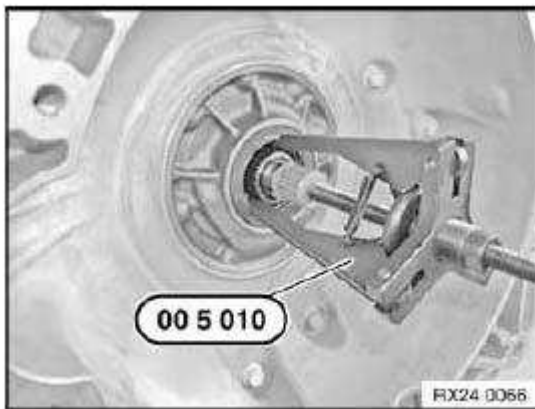


Fig. 24: Identifying Special Tool (00 5 010)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Clean sealing surface.

Lubricate sealing lip of shaft seal with clean transmission oil.

Push radial shaft seal (1) onto special tool 24 4 250 and drive firmly home.

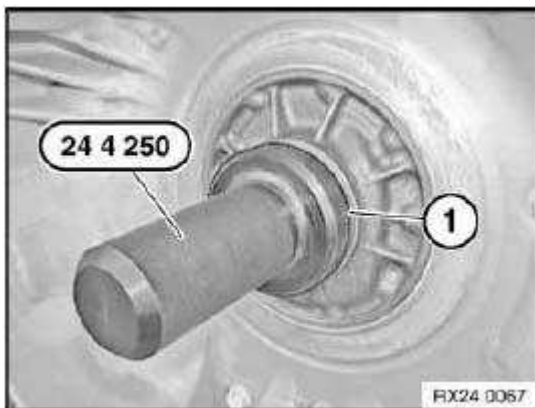


Fig. 25: Identifying Special Tool (24 4 250)
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: After completion of work, check transmission fluid level.
Make a note of drained ATF quantity.
Required replenishment quantity approx. 4.5 liters.

IMPORTANT: Use only the approved automatic transmission fluid in this automatic transmission.
Otherwise the automatic transmission may incur extensive damage!
Do not drain fluid before the transmission has cooled down.

Necessary preliminary tasks:

- Remove **24 11 012 REMOVING AND INSTALLING/SEALING OR REPLACING TRANSMISSION FLUID SUMP (AISIN).**
- Remove **24 31 151 REMOVING AND INSTALLING/REPLACING TRANSMISSION FLUID STRAINER (AISIN).**

Bend open retaining lugs (1) of hand valve lever.

Slacken nut (2).

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

Remove hand valve lever (3).

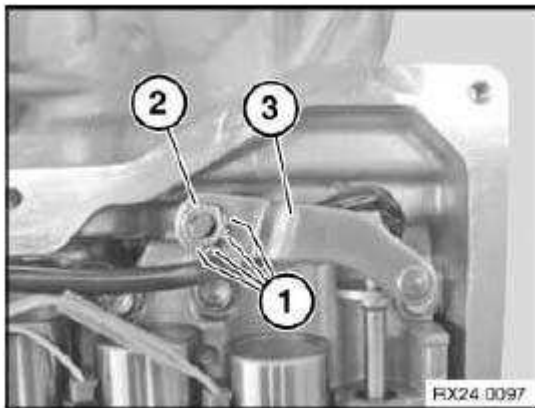


Fig. 26: Identifying Retaining Lugs, Slacken Nut And Valve Lever
Courtesy of BMW OF NORTH AMERICA, INC.

Release plugs (1/2) from holders and disconnect.

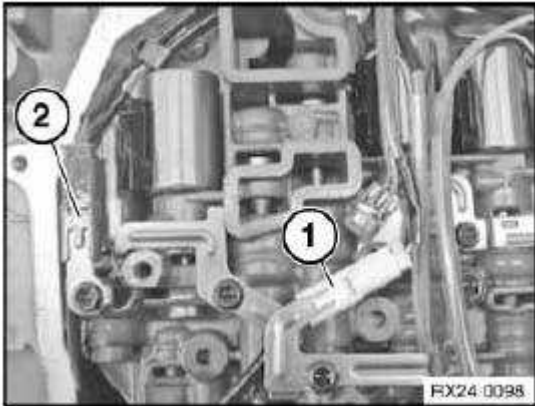


Fig. 27: Identifying Plugs

Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

Remove oil temperature sensor (2) with locking plate (3).

Installation:

Moisten seal with ATF.

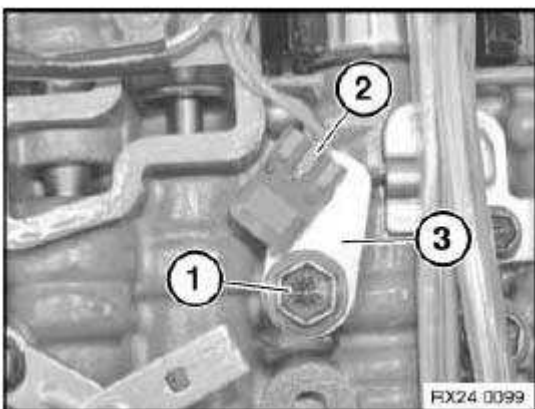


Fig. 28: Identifying Oil Temperature Sensor And Locking Plate

Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plugs of magnet and pressure valves.

Installation:

Pay attention to routing of cables.

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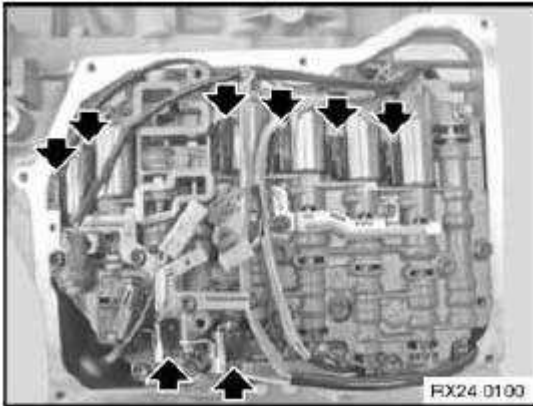


Fig. 29: Locating Plugs Of Magnet And Pressure Valves
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: When removing selector unit, slide in selector slide (1) and hold down.

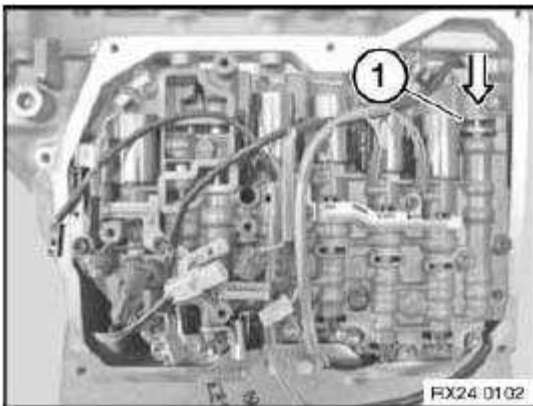


Fig. 30: Identifying Selector Slide
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Screws have different lengths.

Numbers: 4,6,10,12=28 mm.

Numbers: 2,3,5,7,8,11=21 mm.

Numbers: 1,9=16 mm.

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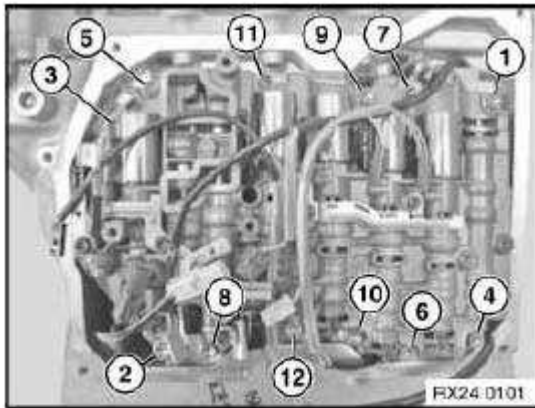


Fig. 31: Identifying Screws

Courtesy of BMW OF NORTH AMERICA, INC.

First release screws uniformly in specified order and then remove.

Remove selector unit. Refer to **24 30 010 REMOVING AND INSTALLING/REPLACING HYDRAULIC SELECTOR UNIT (AISIN)**.

Installation:

Pay attention to installation location of cable holders and cables.

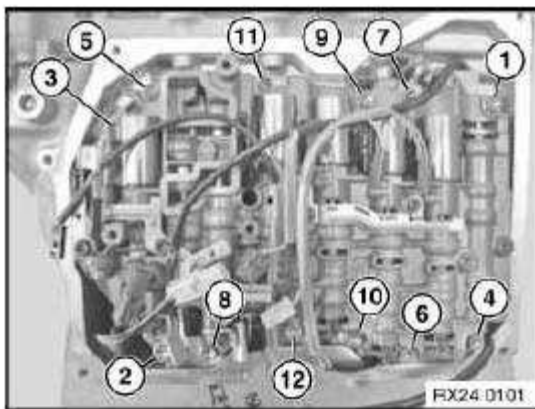


Fig. 32: Identifying Screws

Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Under the selector unit at the end of the selector slide is the accumulator plunger (1) with spring.
Hold accumulator plunger (1) and spring firmly when removing selector unit.

Installation:

Moisten accumulator plunger and spring with ATF.

Install selector unit, accumulator plunger and spring simultaneously.

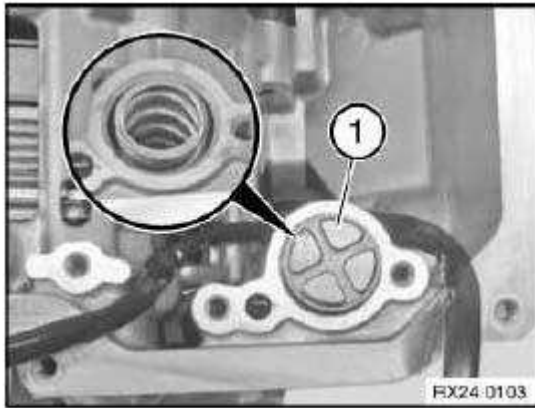


Fig. 33: Identifying Accumulator Plunger
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Before installing selector unit, secure cable with adhesive tape in installation location on housing.

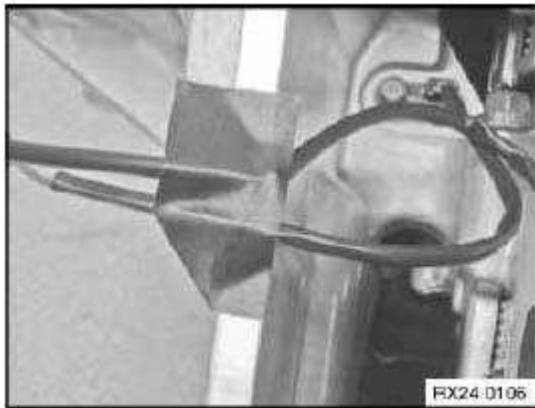


Fig. 34: Identifying Cable With Adhesive Tape
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Insert screws slightly during installation, align selector unit and tighten down in specified order.
Jointing torque and angle of rotation must be observed.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

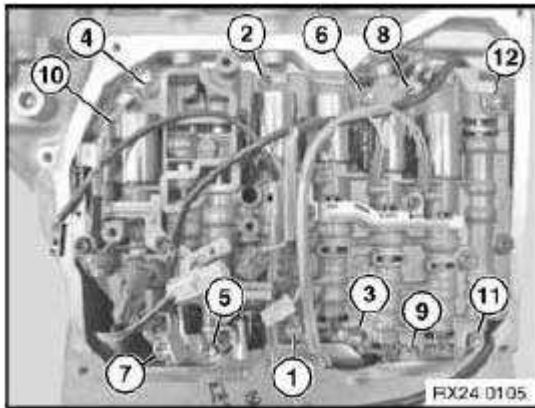


Fig. 35: Identifying Screws

Courtesy of BMW OF NORTH AMERICA, INC.

24 35 508 REPLACING WIRING HARNESS IN AUTOMATIC TRANSMISSION (AISIN)

IMPORTANT: After completion of work, check transmission fluid level.

Make a note of drained ATF quantity.

Required replenishment quantity approx. 4.5 liters.

IMPORTANT: Use only the approved automatic transmission fluid in this automatic transmission.

Otherwise the automatic transmission may incur extensive damage!

Do not drain fluid before the transmission has cooled down.

Necessary preliminary tasks:

- Remove hydraulic selector unit. Refer to **24 30 010 REMOVING AND INSTALLING/REPLACING HYDRAULIC SELECTOR UNIT (AISIN).**

Release screw (1).

Disconnect multiple connector (2) of EGS control unit.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

Installation:

Coat O-ring with ATF.



Fig. 36: Identifying Screws And Multiple Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Disconnect multiple connector (2) of EGS control unit.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

Installation:

Coat O-ring with ATF.

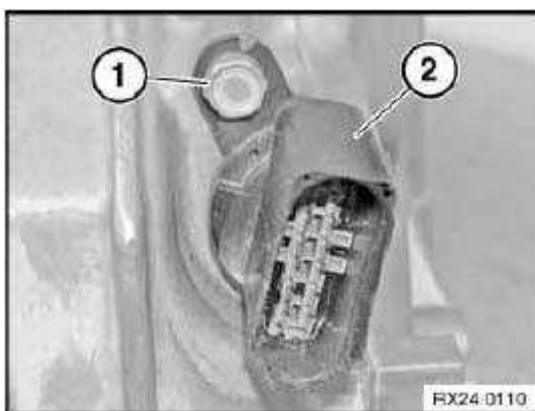


Fig. 37: Identifying Multiple Connector And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

24 35 560 REPLACING SPEED SENSOR (OUTPUT) (AISIN)

IMPORTANT: After completion of work, check transmission fluid level.
Make a note of drained ATF quantity.
Required replenishment quantity approx. 4.5 liters.

IMPORTANT: Use only the approved automatic transmission fluid in this automatic transmission.
Otherwise the automatic transmission may incur extensive damage!
Do not drain fluid before the transmission has cooled down.

Necessary preliminary tasks:

- Remove hydraulic selector unit. Refer to **24 30 010 REMOVING AND INSTALLING/REPLACING HYDRAULIC SELECTOR UNIT (AISIN)**.

Release screw (1).

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

Remove sensor (2).

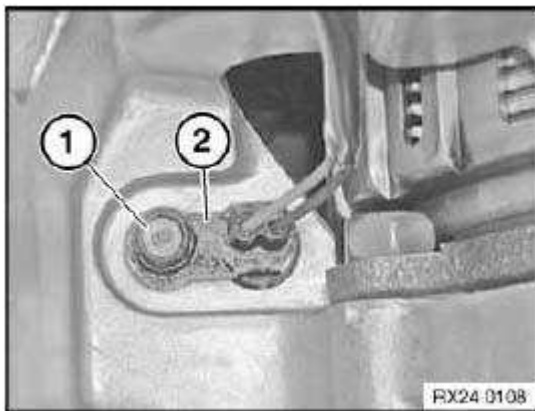


Fig. 38: Identifying Sensor And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

24 35 565 REPLACING SPEED SENSOR (INPUT) (AISIN)

IMPORTANT: After completion of work, check transmission fluid level.
Make a note of drained ATF quantity.
Required replenishment quantity approx. 4.5 liters.

IMPORTANT: Use only the approved automatic transmission fluid in this automatic transmission.
Otherwise the automatic transmission may incur extensive damage!
Do not drain fluid before the transmission has cooled down.

Necessary preliminary tasks:

- Remove hydraulic selector unit. Refer to **24 30 010 REMOVING AND INSTALLING/REPLACING**

HYDRAULIC SELECTOR UNIT (AISIN).

Release screw (1).

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

Remove sensor (2).

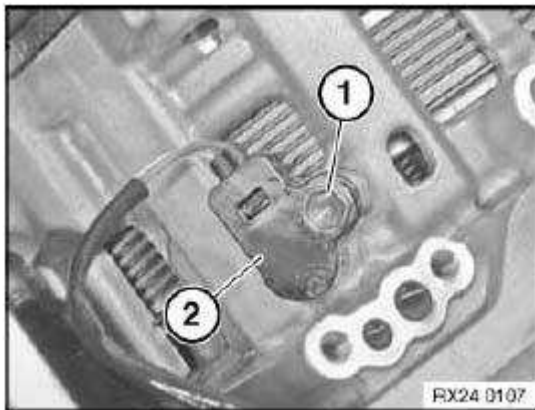


Fig. 39: Identifying Sensor And Screw

Courtesy of BMW OF NORTH AMERICA, INC.

12 TORQUE CONVERTER BEARING**24 12 110 REMOVING AND INSTALLING/REPLACING SELECTOR SHAFT RADIAL SEAL (AISIN)****Special tools required:**

- 24 4 280
- 24 4 290

Necessary preliminary tasks:

- Remove gear position switch

Screw special tool 24 4 280 firmly into radial shaft seal.

Pull seal out of transmission case by means of bolt (1).

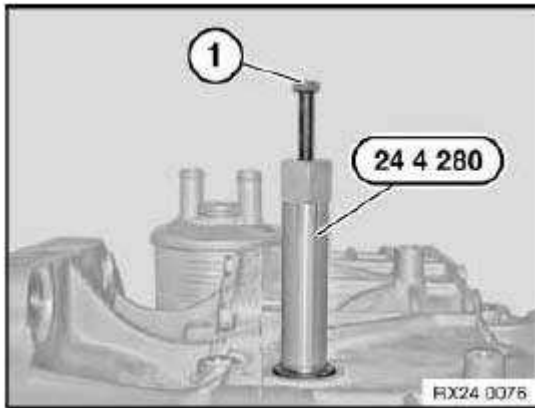


Fig. 40: Identifying Special Tool (24 4 280)

Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Coat sealing lips of new radial seal with clean transmission oil.

Drive shaft seal firmly home with special tool 24 4 290.

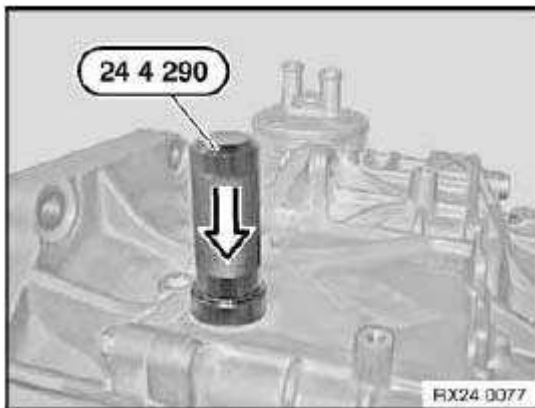


Fig. 41: Identifying Special Tool (24 4 290)

Courtesy of BMW OF NORTH AMERICA, INC.

15 ELECTRICAL ATTACHMENTS

24 10 006 REMOVING AND INSTALLING/REPLACING GEAR POSITION SWITCH (AISIN)

Special tools required:

- 24 4 270

IMPORTANT: An incorrectly adjusted gearshift mechanism can result in gear teeth noises.

Necessary preliminary tasks:

- Remove intake filter housing
- Remove intake filter housing gaiter.

Release cable lock nut (1).

Installation:

Adjust gearshift mechanism.

NOTE: Illustration similar.

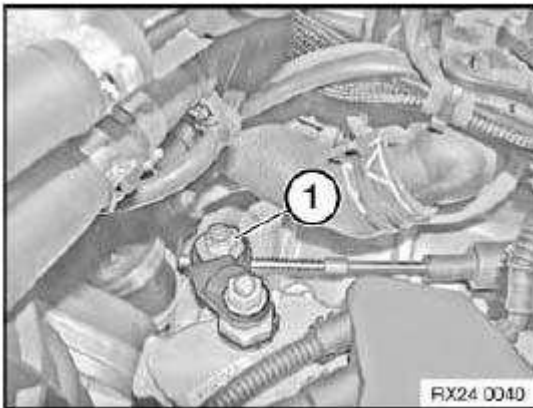


Fig. 42: Identifying Cable Lock Nut
Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plug (1) from gear position switch.

Unlock locking sleeve (3) in direction of arrow.

Remove cable upwards from holder.

Release nut (4) and remove selector lever.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

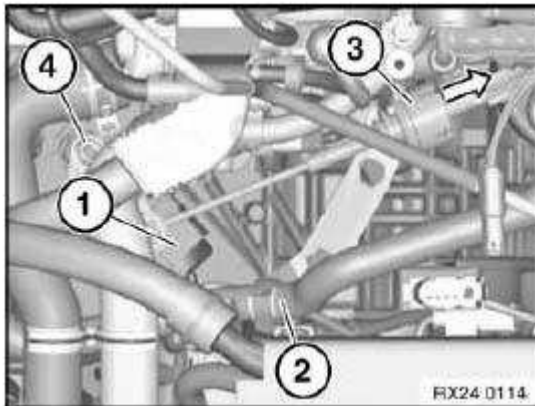


Fig. 43: Identifying Plug, Cable Locking Sleeve And Hose
Courtesy of BMW OF NORTH AMERICA, INC.

Release shim (1), retaining ring (2) and nut (3).

Release bolts (4).

Remove switch.

Installation:

Insert screws (4) slightly.

Fit shim, retaining ring and nut.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

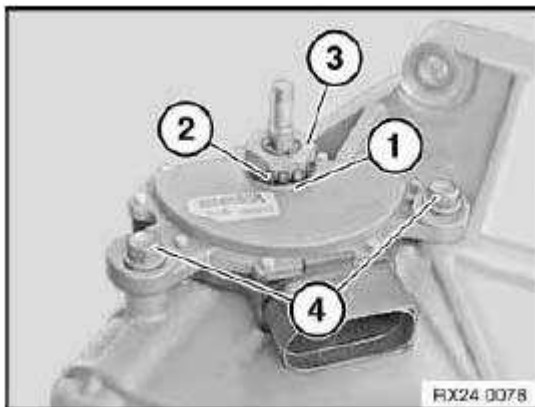


Fig. 44: Identifying Shim, Retaining Ring And Nut
Courtesy of BMW OF NORTH AMERICA, INC.

Mount special tool 24 4 270.

Tighten screw (1).

Align position switch to "N".

Tighten down screws (2).

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

Installation:

Connect gear position switch plug

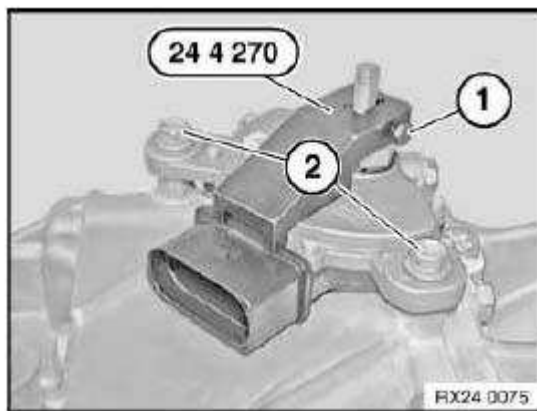


Fig. 45: Identifying Special Tool (24 4 270)
Courtesy of BMW OF NORTH AMERICA, INC.

24 10 018 ADJUSTING SELECTOR LEVER (AISIN)

IMPORTANT: An incorrectly adjusted gearshift mechanism can result in gear teeth noises be transmitted into the passenger compartment.

Necessary preliminary tasks:

- Remove suction filter housing.
- Remove intake filter housing gaiter.
- Move selector lever to "P" position.

Insert end of shift cable into locating sleeve (1) of selector lever.

Insert shift cable in holder.

Secure shift cable with clip to retaining bracket (2).

Move selector lever to "P" position (in counterclockwise direction).

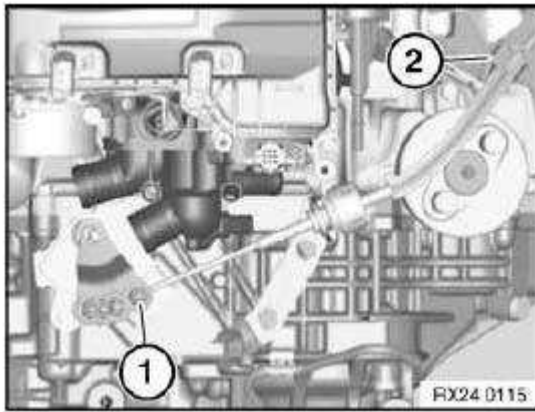


Fig. 46: Identifying Sleeve And Bracket
Courtesy of BMW OF NORTH AMERICA, INC.

Grip nut (1) and tighten down nut (2).

NOTE: Press against end of shift cable shortly before tightening down screw.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

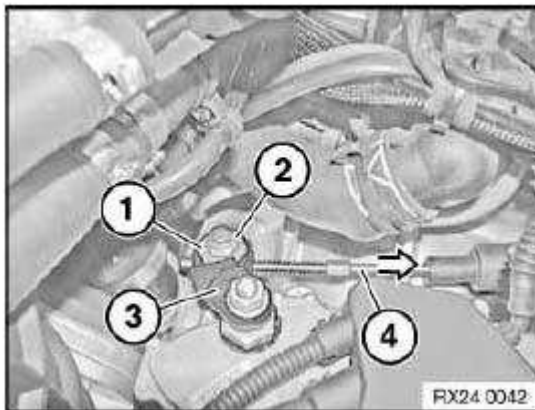


Fig. 47: Identifying Nut
Courtesy of BMW OF NORTH AMERICA, INC.

24 12 110 REMOVING AND INSTALLING/REPLACING SELECTOR SHAFT RADIAL SEAL (AISIN)

Special tools required:

- 24 4 280
- 24 4 290

Necessary preliminary tasks:

- Remove gear position switch

Screw special tool 24 4 280 firmly into radial shaft seal.

Pull seal out of transmission case by means of bolt (1).

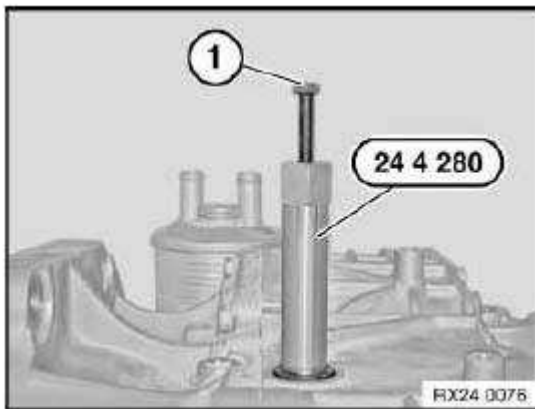


Fig. 48: Identifying Special Tool (24 4 280)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Coat sealing lips of new radial seal with clean transmission oil.

Drive shaft seal firmly home with special tool 24 4 290.

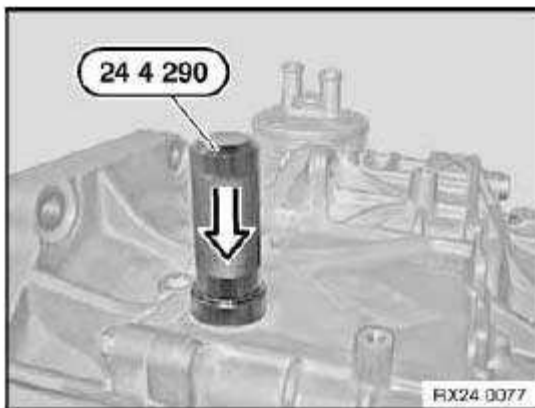


Fig. 49: Identifying Special Tool (24 4 290)
Courtesy of BMW OF NORTH AMERICA, INC.

25 1. ... SHIFTLOCK TROUBLESHOOTING (AISIN)

NOTE: Troubleshooting with DIS Tester.

21 DRIVE-INTERMEDIATE-OUT

24 21 220 REMOVING RADIAL SHAFT SEAL OF LEFT AXLE SHAFT (AISIN)

Special tools required:

- 23 0 490
- 24 4 300

Necessary preliminary tasks:

- Drain off transmission oil.
- Remove **FRONT AXLE - REPAIR INSTRUCTIONS - 2007 HATCHBACK**

Drive a hole into radial shaft seal using a center punch.

IMPORTANT: Do not use a drill as drillings may result in transmission malfunction.

Screw special tool 23 0 490 into radial shaft seal (1).

Drive out radial shaft seal (1) with impact weight (2).

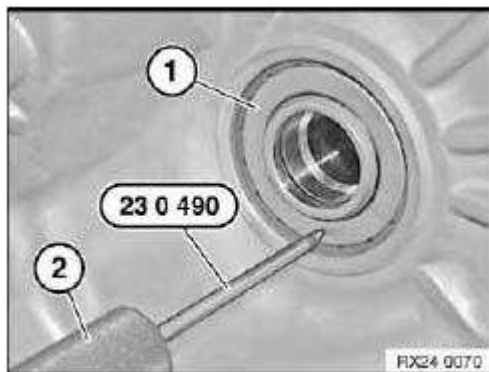


Fig. 50: Identifying Special Tool (23 0 490)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Coat sealing lips of new radial seal with clean transmission oil.

Drive shaft seal firmly home with special tool 24 4 300.

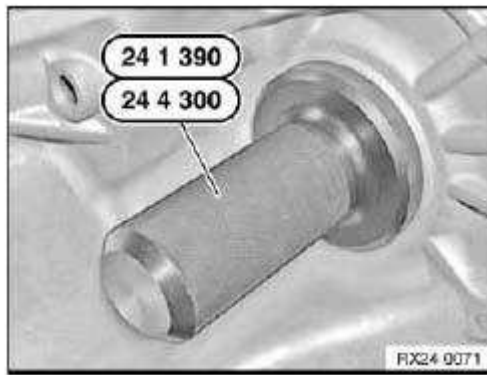


Fig. 51: Identifying Special Tool (24 4 300)
Courtesy of BMW OF NORTH AMERICA, INC.

24 21 230 REMOVING RADIAL SHAFT SEAL OF RIGHT AXLE SHAFT (AISIN)

Special tools required:

- 23 0 490
- 24 4 300

Necessary preliminary tasks:

- Drain off transmission oil.
- Remove **FRONT AXLE - REPAIR INSTRUCTIONS - 2007 HATCHBACK**

Drive a hole into radial shaft seal using a center punch.

IMPORTANT: Do not use a drill as drillings may result in transmission malfunction.

Screw special tool 23 0 490 into radial shaft seal.

Drive out radial shaft seal (1) with impact weight (2).

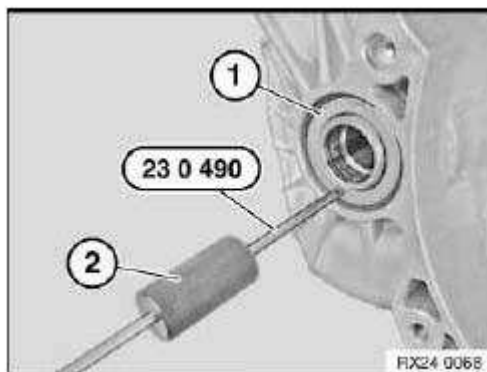


Fig. 52: Identifying Special Tool (23 0 490)

Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Coat sealing lips of new radial seal with clean transmission oil.

Drive radial shaft seal (1) firmly home with special tool 24 4 300.

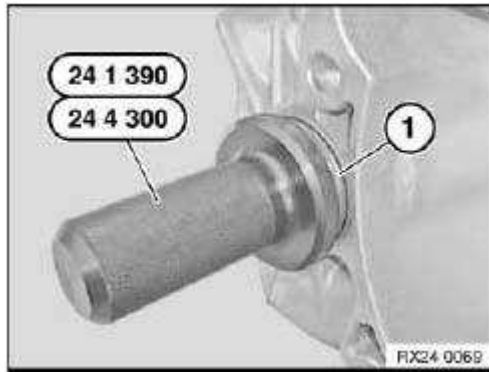


Fig. 53: Identifying Special Tool (24 4 300)

Courtesy of BMW OF NORTH AMERICA, INC.

24 21 515 REPLACING RADIAL SHAFT SEAL FOR DRIVE SHAFT (AISIN)

Special tools required:

- 00 5 010
- 24 4 250

NOTE: Transmission removed!

Remove **40 TORQUE CONVERTER**.

Pull off radial shaft seal with special tool 00 5 010 .

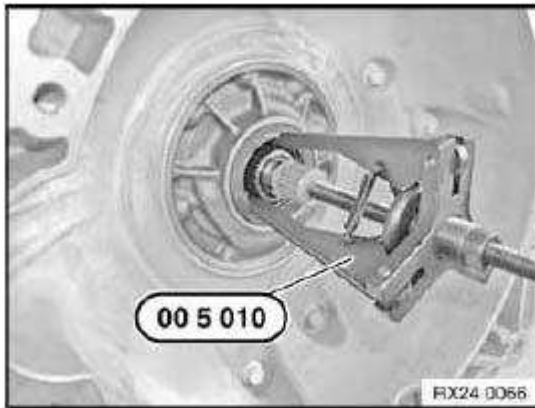


Fig. 54: Identifying Special Tool (00 5 010)

Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Clean sealing surface.

Lubricate sealing lip of shaft seal with clean transmission oil.

Push radial shaft seal (1) onto special tool 24 4 250 and drive firmly home.

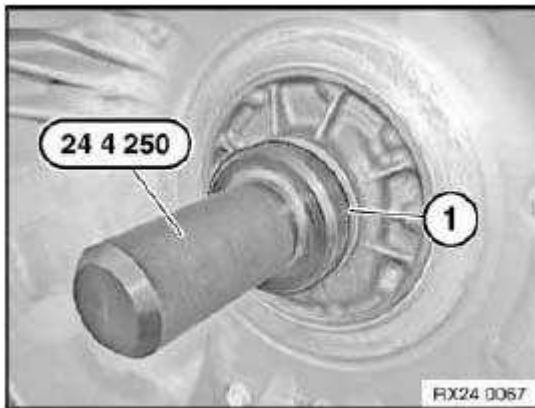


Fig. 55: Identifying Special Tool (24 4 250)

Courtesy of BMW OF NORTH AMERICA, INC.

30 HYDR-EL CONTROL COMPONENT

24 30 010 REMOVING AND INSTALLING/REPLACING HYDRAULIC SELECTOR UNIT (AISIN)

IMPORTANT: After completion of work, check transmission fluid level.
Make a note of drained ATF quantity.
Required replenishment quantity approx. 4.5 liters.

**IMPORTANT: Use only the approved automatic transmission fluid in this automatic transmission.
Otherwise the automatic transmission may incur extensive damage!
Do not drain fluid before the transmission has cooled down.**

Necessary preliminary tasks:

- Remove **24 11 012 REMOVING AND INSTALLING/SEALING OR REPLACING TRANSMISSION FLUID SUMP (AISIN)**
- Remove **24 31 151 REMOVING AND INSTALLING/REPLACING TRANSMISSION FLUID STRAINER (AISIN).**

Bend open retaining lugs (1) of hand valve lever.

Slacken nut (2).

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

Remove hand valve lever (3).

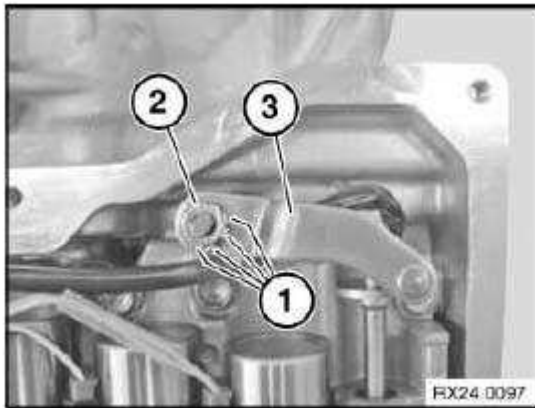


Fig. 56: Identifying Retaining Lugs, Slacken Nut And Valve Lever
Courtesy of BMW OF NORTH AMERICA, INC.

Release plugs (1/2) from holders and disconnect.

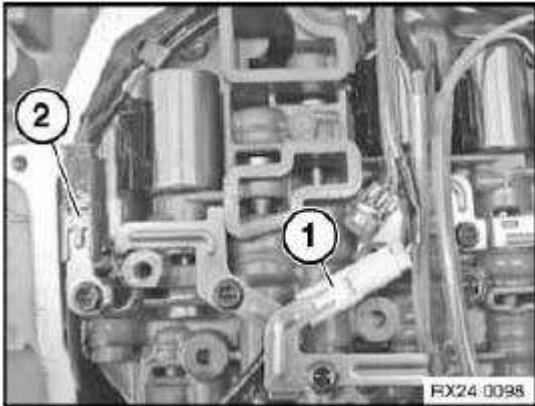


Fig. 57: Identifying Plugs

Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

Remove oil temperature sensor (2) with locking plate (3).

Installation:

Moisten seal with ATF.

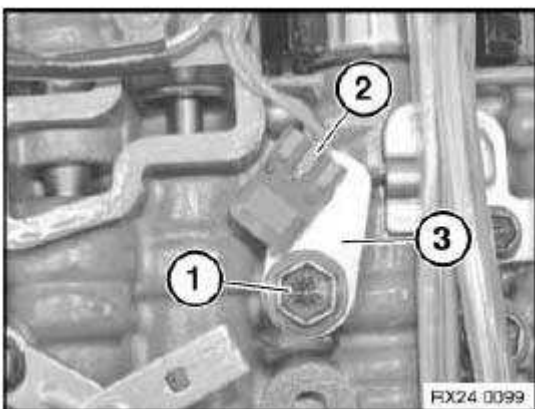


Fig. 58: Identifying Oil Temperature Sensor And Locking Plate

Courtesy of BMW OF NORTH AMERICA, INC.

Disconnect plugs of magnet and pressure valves.

Installation:

Pay attention to routing of cables.

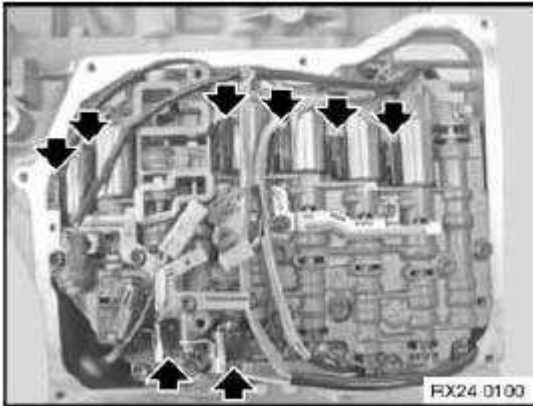


Fig. 59: Locating Plugs Of Magnet And Pressure Valves
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: When removing selector unit, slide in selector slide (1) and hold down.

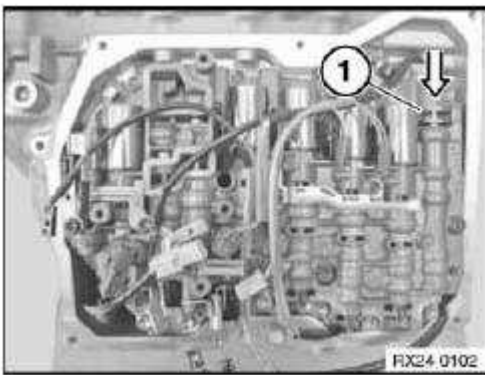


Fig. 60: Identifying Selector Slide
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Screws have different lengths.
Numbers: 4,6,10,12=28 mm.
Numbers: 2,3,5,7,8,11=21 mm.

Numbers: 1,9=16 mm.

2008 MINI Cooper

2007 TRANSMISSION Automatic Transmission - Repair Instructions - Cooper

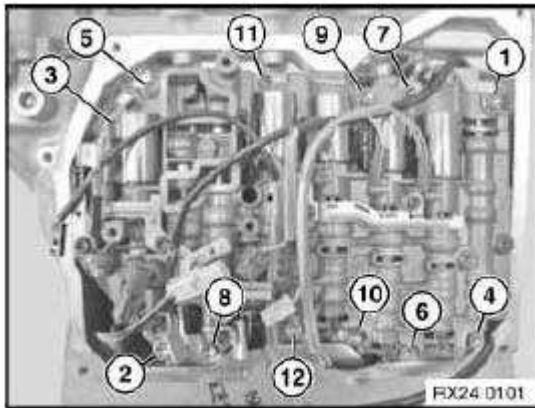


Fig. 61: Identifying Screws

Courtesy of BMW OF NORTH AMERICA, INC.

First release screws uniformly in specified order and then remove.

Remove selector unit. Refer to **24 30 010 REMOVING AND INSTALLING/REPLACING HYDRAULIC SELECTOR UNIT (AISIN)**.

Installation:

Pay attention to installation location of cable holders and cables.

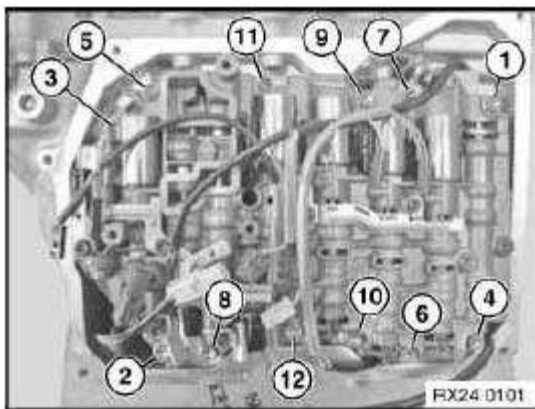


Fig. 62: Identifying Screws

Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Under the selector unit at the end of the selector slide is the accumulator plunger (1) with spring.
Hold accumulator plunger (1) and spring firmly when removing selector unit.

Installation:

Moisten accumulator plunger and spring with ATF.

Install selector unit, accumulator plunger and spring simultaneously.

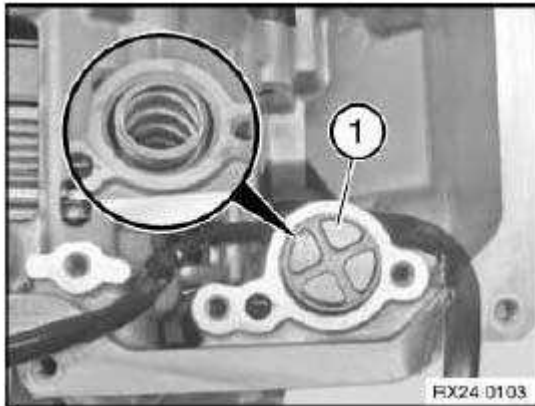


Fig. 63: Identifying Accumulator Plunger
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

Before installing selector unit, secure cable with adhesive tape in installation location on housing.

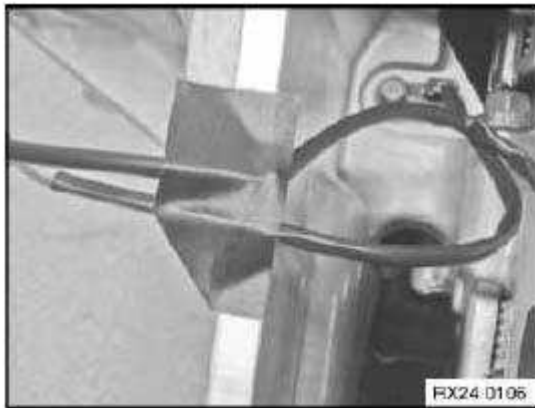


Fig. 64: Identifying Cable With Adhesive Tape
Courtesy of BMW OF NORTH AMERICA, INC.

IMPORTANT: Insert screws slightly during installation, align selector unit and tighten down in specified order.
Jointing torque and angle of rotation must be observed.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

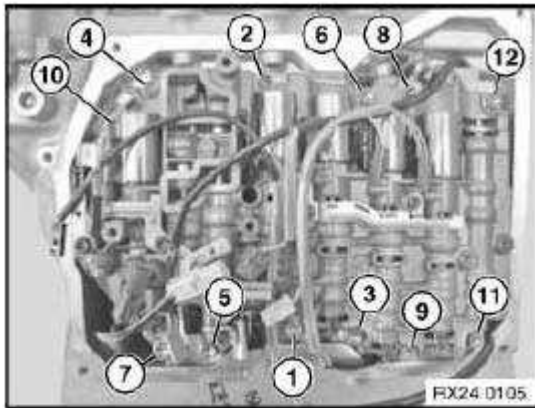


Fig. 65: Identifying Screws

Courtesy of BMW OF NORTH AMERICA, INC.

31 PUMP

24 31 151 REMOVING AND INSTALLING/REPLACING TRANSMISSION FLUID STRAINER (AISIN)

IMPORTANT: After completion of work, check transmission fluid level.
Use only the approved transmission fluid.

Failure to comply with this requirement will result in serious damage to the automatic transmission!

Necessary preliminary tasks:

- Remove **24 11 012 REMOVING AND INSTALLING/SEALING OR REPLACING TRANSMISSION FLUID SUMP (AISIN).**

Release screws (1).

Remove fluid strainer.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

Installation:

Clean contact surfaces.

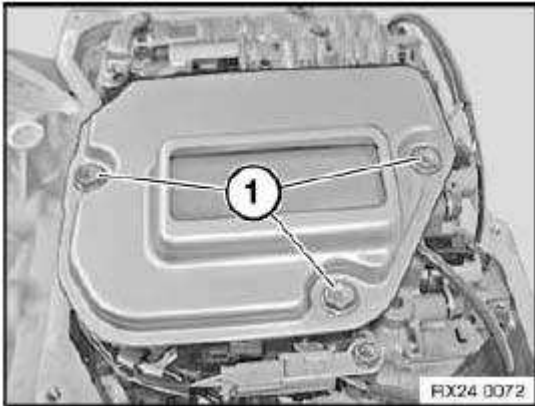


Fig. 66: Identifying Screws

Courtesy of BMW OF NORTH AMERICA, INC.

35 WIRING HARNESS, SHIFT

24 35 508 REPLACING WIRING HARNESS IN AUTOMATIC TRANSMISSION (AISIN)

IMPORTANT: After completion of work, check transmission fluid level.
Make a note of drained ATF quantity.
Required replenishment quantity approx. 4.5 liters.

IMPORTANT: Use only the approved automatic transmission fluid in this automatic transmission.
Otherwise the automatic transmission may incur extensive damage!
Do not drain fluid before the transmission has cooled down.

Necessary preliminary tasks:

- Remove hydraulic selector unit. Refer to **24 30 010 REMOVING AND INSTALLING/REPLACING HYDRAULIC SELECTOR UNIT (AISIN).**

Release screw (1).

Disconnect multiple connector (2) of EGS control unit.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

Installation:

Coat O-ring with ATF.



Fig. 67: Identifying Screws And Multiple Connector
Courtesy of BMW OF NORTH AMERICA, INC.

Release screw (1).

Disconnect multiple connector (2) of EGS control unit.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

Installation:

Coat O-ring with ATF.

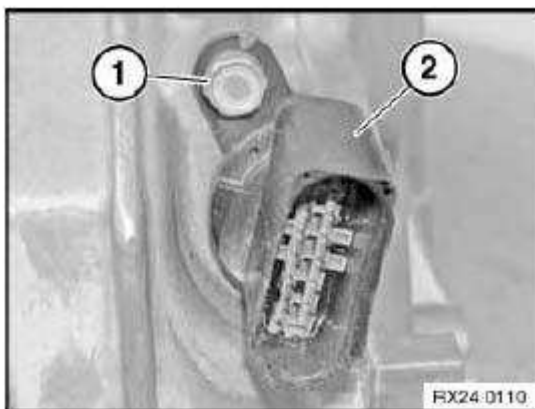


Fig. 68: Identifying Multiple Connector And Screws
Courtesy of BMW OF NORTH AMERICA, INC.

24 35 560 REPLACING SPEED SENSOR (OUTPUT) (AISIN)

IMPORTANT: After completion of work, check transmission fluid level.
Make a note of drained ATF quantity.
Required replenishment quantity approx. 4.5 liters.

IMPORTANT: Use only the approved automatic transmission fluid in this automatic transmission.
Otherwise the automatic transmission may incur extensive damage!
Do not drain fluid before the transmission has cooled down.

Necessary preliminary tasks:

- Remove hydraulic selector unit. Refer to **24 30 010 REMOVING AND INSTALLING/REPLACING HYDRAULIC SELECTOR UNIT (AISIN)**.

Release screw (1).

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

Remove sensor (2).

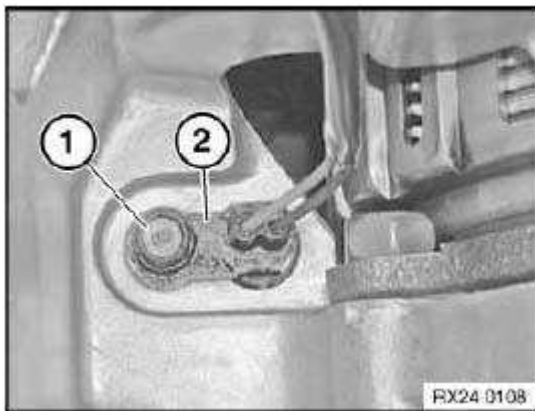


Fig. 69: Identifying Sensor And Screw
Courtesy of BMW OF NORTH AMERICA, INC.

24 35 565 REPLACING SPEED SENSOR (INPUT) (AISIN)

IMPORTANT: After completion of work, check transmission fluid level.
Make a note of drained ATF quantity.
Required replenishment quantity approx. 4.5 liters.

IMPORTANT: Use only the approved automatic transmission fluid in this automatic transmission.
Otherwise the automatic transmission may incur extensive damage!
Do not drain fluid before the transmission has cooled down.

Necessary preliminary tasks:

- Remove selector unit. Refer to **24 30 010 REMOVING AND INSTALLING/REPLACING**

HYDRAULIC SELECTOR UNIT (AISIN).

Release screw (1).

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK** .

Remove sensor (2).

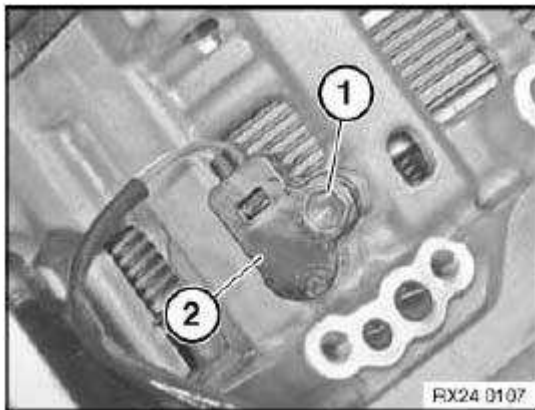


Fig. 70: Identifying Sensor And Screw

Courtesy of BMW OF NORTH AMERICA, INC.

40 TORQUE CONVERTER**24 40 012 REMOVING AND INSTALLING / REPLACING TORQUE CONVERTER (AISIN)**

Special tools required:

- 00 2 550
- 24 4 260

IMPORTANT: After completion of work, check transmission fluid level.

Use only approved transmission oil.

Failure to comply with this instruction will result in serious damage to the transmission.

Necessary preliminary tasks:

- Remove automatic transmission. Refer to **00 TRANSMISSION ASSEMBLY**.

Screw special tool 24 4 260 onto torque converter.

Remove torque converter.

2008 MINI Cooper

2007 TRANSMISSION Automatic Transmission - Repair Instructions - Cooper

NOTE: Remove torque converter and set down vertically.
When torque converter is removed, transmission oil flows out.

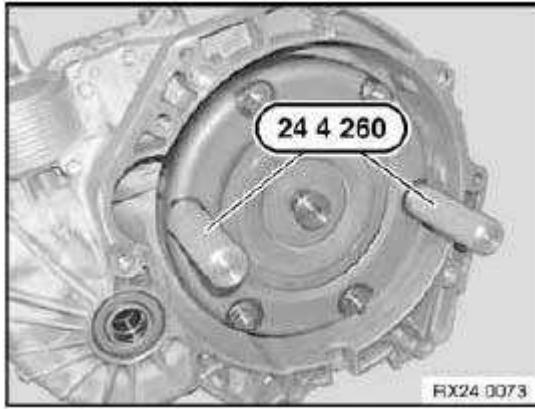


Fig. 71: Identifying Special Tool (24 4 260)
Courtesy of BMW OF NORTH AMERICA, INC.

Installation:

When installing, do not damage shaft seal and bearing.

If the torque converter is not correctly installed, the driver of the pump impeller may be damaged when the transmission is flanged to the engine.

Installation:

Push torque converter through shaft seal onto transmission shaft as far as it will go.

Press torque converter by hand into converter housing and turn in the process. Converter hub opening must snap into place in driver of pump impeller. Torque converter must be felt to slip inwards.

Determine distance between contact surface and surface (1) of tapped hole in torque converter with special tool 00 2 550 .

NOTE: Measured value must be greater than A.

Mini Cooper S A= 17.5 mm

R56 A = 12.5 mm

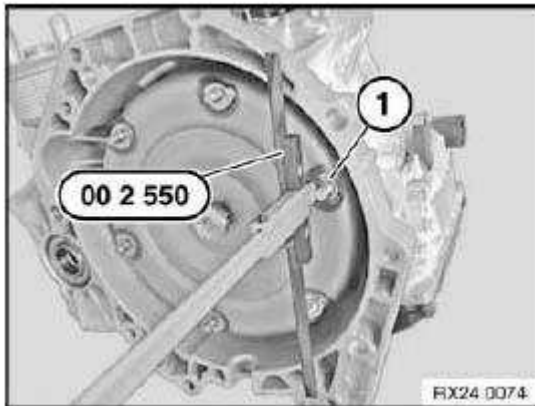


Fig. 72: Identifying Special Tool (00 2 550)

Courtesy of BMW OF NORTH AMERICA, INC.

61 ELECTRONIC CONTROL UNIT

24 61 500 REMOVING AND INSTALLING OR REPLACING EGS CONTROL UNIT

Disconnect battery.

Release bolt (1).

Detach retaining bar (2) from control unit.

Tightening torque. Refer to **AUTOMATIC TRANSMISSION - TIGHTENING TORQUES - 2007 HATCHBACK**.

Disconnect plug (3) and remove control unit from mounting.

IMPORTANT: The adaptation values must be reset after the control unit has been replaced.

NOTE: Illustration similar.



2008 MINI Cooper

2007 TRANSMISSION Automatic Transmission - Repair Instructions - Cooper

Fig. 73: Identifying Retaining Bar, Plug And Bolt
Courtesy of BMW OF NORTH AMERICA, INC.