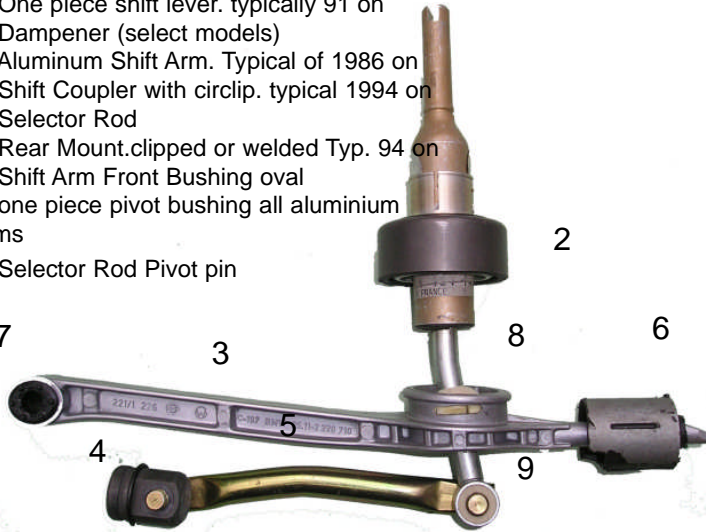
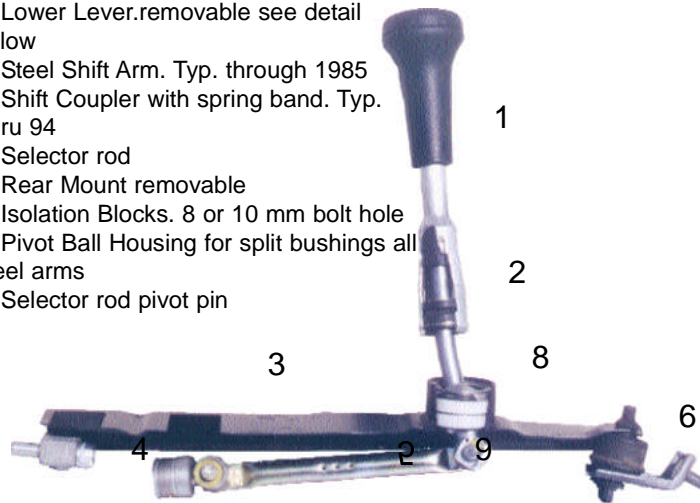


BMW FACTORY SETUPS: BMW Shifters are either of the Aluminium Arm or the Steel Arm type. Each Type has several variants. Please identify your setup before proceeding.

1. One piece shift lever. typically 91 on
2. Dampener (select models)
3. Aluminum Shift Arm. Typical of 1986 on
4. Shift Coupler with circlip. typical 1994 on
5. Selector Rod
6. Rear Mount. clipped or welded Typ. 94 on
7. Shift Arm Front Bushing oval
8. one piece pivot bushing all aluminium arms
9. Selector Rod Pivot pin



1. Upper lever removable. Typ. up to 90
2. Lower Lever. removable see detail below
3. Steel Shift Arm. Typ. through 1985
4. Shift Coupler with spring band. Typ. thru 94
5. Selector rod
6. Rear Mount removable
7. Isolation Blocks. 8 or 10 mm bolt hole
8. Pivot Ball Housing for split bushings all steel arms
9. Selector rod pivot pin

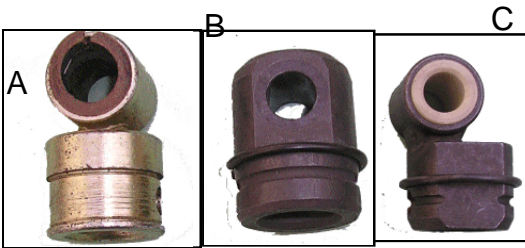
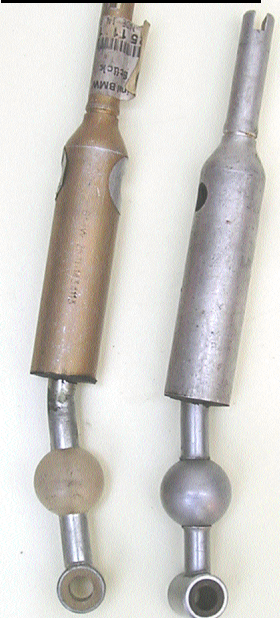


Various aluminium Shift arms

1. e46 330i two small oval bushings
2. e36 325. One round bushing
3. e60 545i 2 big oval bushings
4. e39M5 (same as 3)
5. e46M3 one small oval bushing



ONE PIECE LEVERS



SHIFT COUPLERS A, B & C

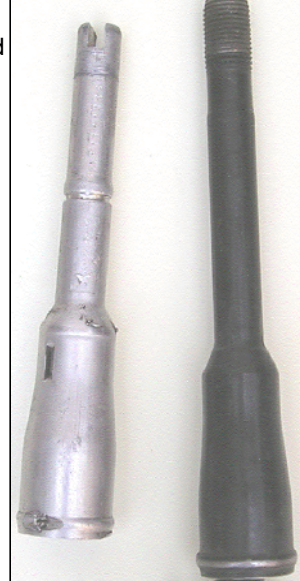
- A. Through 1994 with spring band
- B. From 1994 most models with Spring clip
- C. Select Models with Spring Clip and Offset.

SHIFT LEVERS

One piece levers (Top right).
With steel ball 1986 through approx 1996.
With Plastic Ball 1996 on.

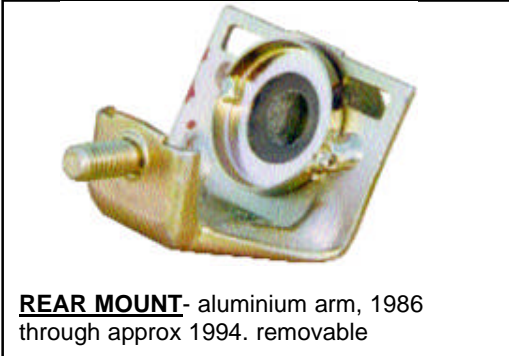
Two piece levers (right)
Through 1985. Note the Aluminium slotted upper lever. most models 82-85 and the threaded cast steel lever, pre 1982

UPPER LEVERS



INNER LEVERS

Left lever is most common. Right lever is typically found on 2002.



REAR MOUNT- aluminium arm, 1986 through approx 1994. removable



CAUTIONS

1. Observe all safety precautions when working under the vehicle. The vehicle jack is not designed to support the car while you are under it. Use proper stands for this purpose.
2. Use proper procedures when disconnecting and reconnecting fasteners. make sure the vehicle will not move when applying force to any part of the car.
3. Allow parts to cool before handling them. Do not work on a hot vehicle
4. Do not stand directly under a part you are disconnecting as a falling part may injure you.
5. Read safety procedures published in most car repair manuals before attempting to work on your vehicle

TIPS

Removing the exhaust

Often the exhaust will be in the way of a complete install. When the car is relatively new it is easy to remove it and reattach it. A smear of high temperature silicone on the gasket will allow you to reuse the gasket instead of replacing it.

On older vehicle disconnecting the back and middle hanger and allow the exhaust to swing down about 12 to 18 inches to provide the necessary clearance. Do not let the exhaust hang by its own weight Support it by tying a rope between the tailpipe and the hanger mount

Removal of bushing without optional tool

1. Quick install step 1
2. insert jaws of needle nose pliers into bushing's recesses
3. Lubricate bushing housing with wd40 or equivalent
4. Rotate counter clockwise 10 to 15 degrees
5. Insert blade of small screwdriver into cutouts of console and push each tab in as much as possible
6. alternate between step 4 and 5 until bushing has rotated about 90 degrees
- 7..Pull lever out from inside car

Inner boot setup

Lubricate with liquid soap.especially when removing the back up light connector. and also when reinstalling

Lever assembly

Generously lubricate all rubber gromets with liquid soap before reinserting inner lever into outer lever. Keep rubber ring and washer as close to the pivot ball as possible Insert inner lever into outer lever making sure that the grooves and tabs index properly and press rubber cap fully into aluminium handle.

When the cap is fully seated slide the rubber ring down into the upper lever's opening and push it with a blunt phillips screwdriver until the top of the ring is about 1/8 of an inch below the clip groove. Slide the washer down and secure with the clip. If using the supplied clip make sure the sharp edge faces out

Check that either clip is fully seated in the groove.

Urethane bushing install

The urethane bushing setup is machined by hand Unlike nylon or delrin urethane is quite soft and can vary a few thousands in its outside diameter.

The trick is to install the 1st half with the bronze sleeve already in it. Let the sleeve protrude about a 1/16 to 1/8 inch and use it as a guide to press the lubricated 2nd urethane half into the housing. Once the 2nd half is engaged use a vice or a wood block to press it fully in place. Work the lubricated assembly between the ears on the transmission.

Reconnecting the lever to the selector rod

With a pair of slip jaws pliers grab the back of the selector rod and outer nylon spacer. This compresses the wave washer.and makes it easy to slip the e-clip in its groove.Verify that the e-clip is firmly seated.

If the factory clip is in good shape it can be reused instead of the e clip.

However keep all nylon spacers in their respective positions to protect the bronze bushing.

E30 M3 Vibration

A lot of e30 M3 shift levers vibrate with the factory setup. In most cases the shift kit will help by moving the vibration to a higher rpm range. In some cases a vibration may appear. Check the following:

1. Shift knob not fully engaged or defective
2. Exhaust bracket to bell housing not tight or broken
3. Transmission mounts broken . We upgrade these mounts with 85 535 mounts.They are bigger ,a bit harder to install and require enlarging the 8mm mounting holes to 10mm but are quite a bit stronger.

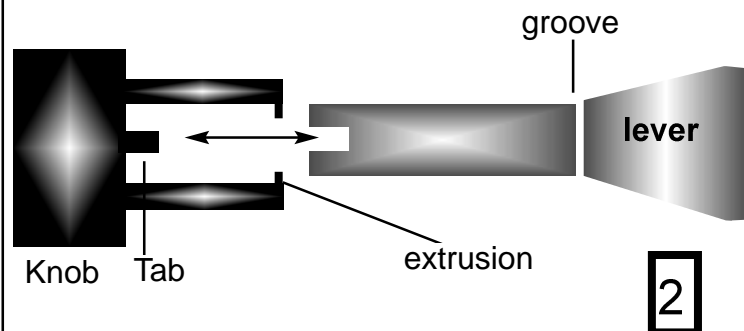
Rear console mount

If the factory rear mount is sloppy and a new one unavailable wrap the tail shaft of the aluminium console with tape and reuse the old mount. The thickness of the tape will remove the excessive clearance

On steel console setups lubricate both nipples of a new mount with liquid soap before installing

Reinstalling factory knob all aluminium levers

1. Factory shift knobs have a tab on the inside that should be indexed with the cutout at the top of the shift lever
2. Once indexed tap the shift knob down firmly with the palm of your hand.This will force the circular extrusion at the base of the knob to fully engage the groove on the lever's neck.



SETUPS

STEEL CONSOLE SETUP

Pre 1980 vehicles have a STEEL CONSOLE with a STEEL SHIFT LEVER and a SCREW ON shift knob.

The STEEL CONSOLE is used through model year 1985 .

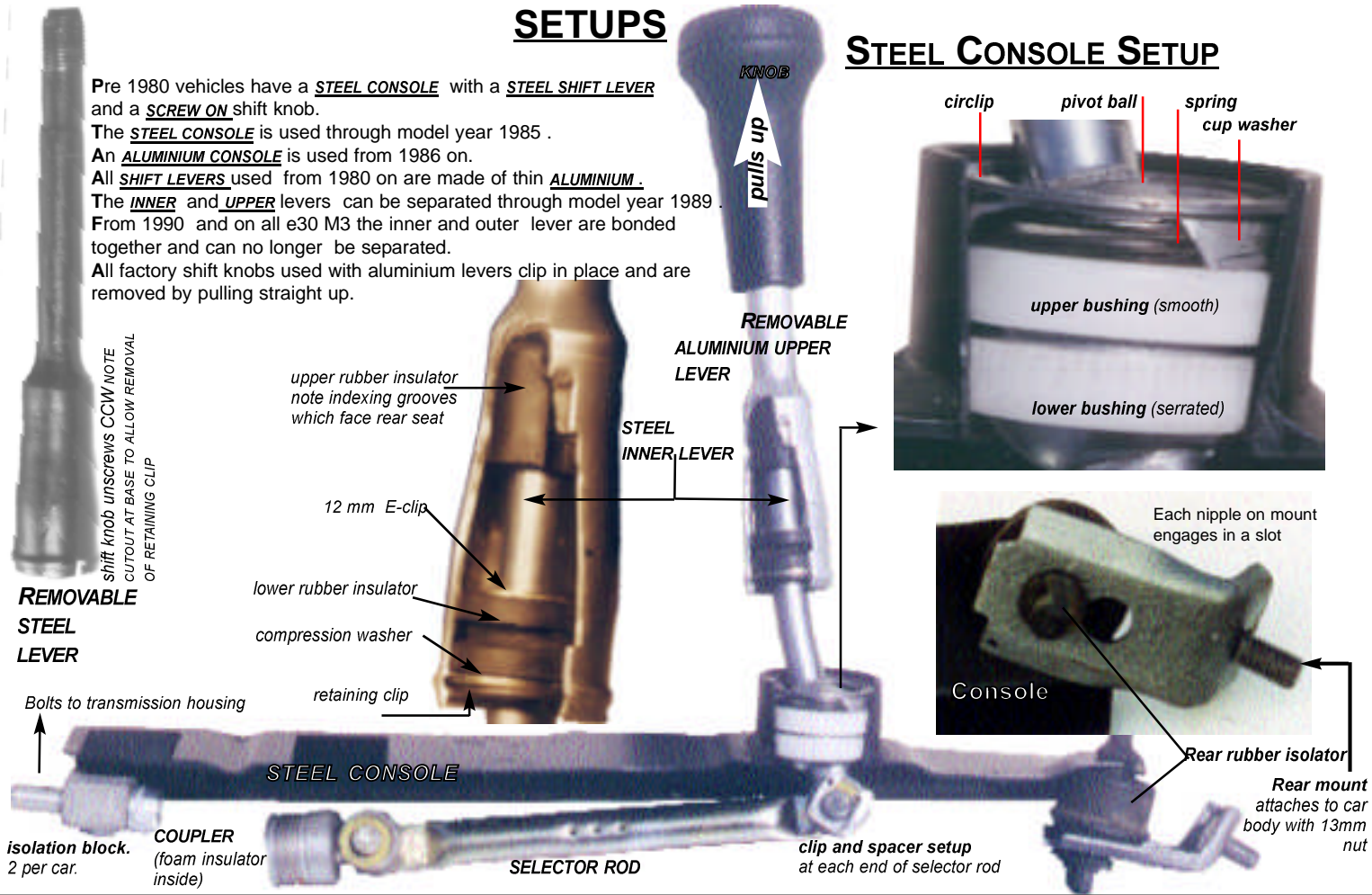
An ALUMINIUM CONSOLE is used from 1986 on.

All SHIFT LEVERS used from 1980 on are made of thin ALUMINIUM .

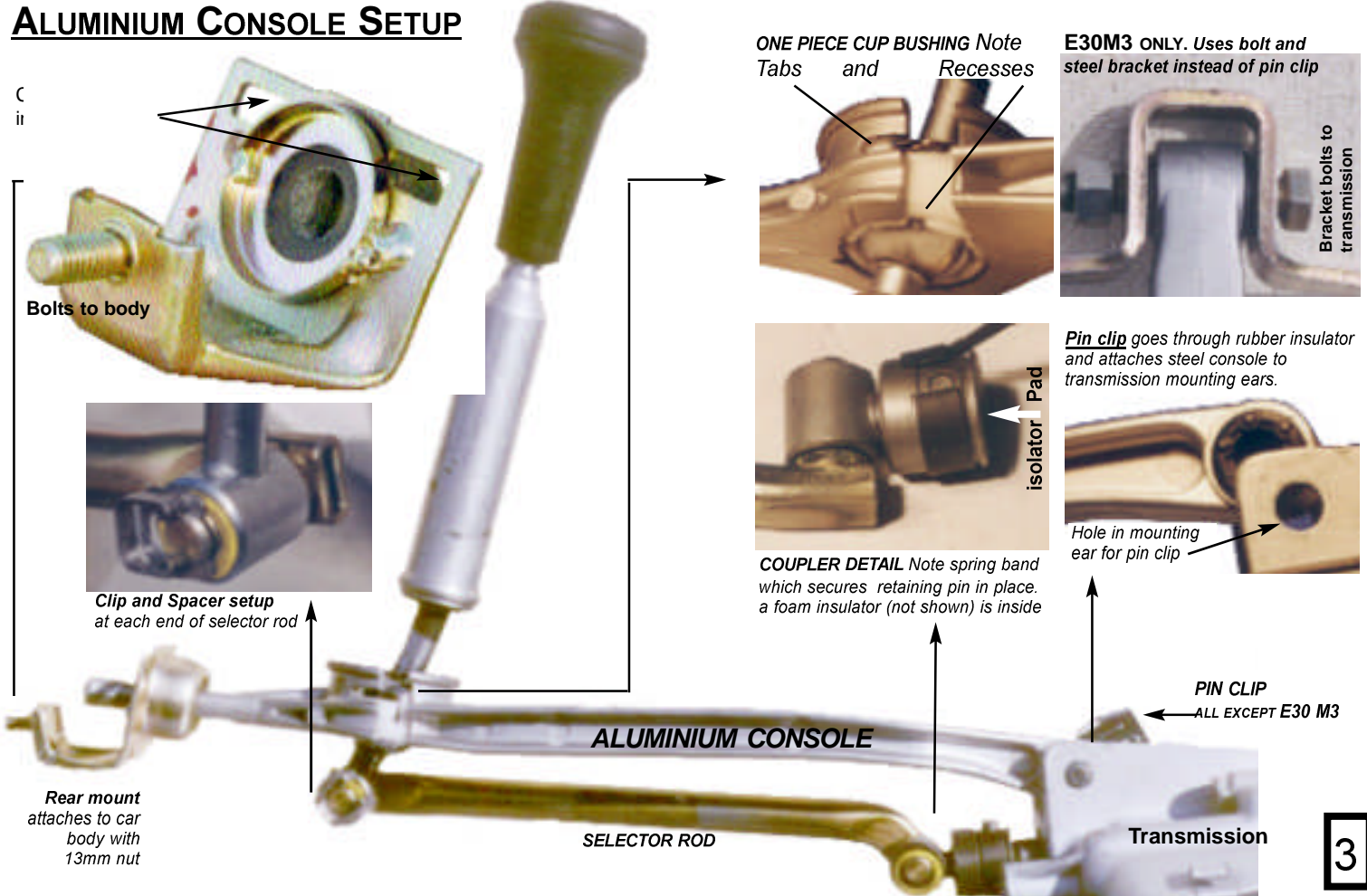
The INNER and UPPER levers can be separated through model year 1989 .

From 1990 and on all e30 M3 the inner and outer lever are bonded together and can no longer be separated.

All factory shift knobs used with aluminium levers clip in place and are removed by pulling straight up.

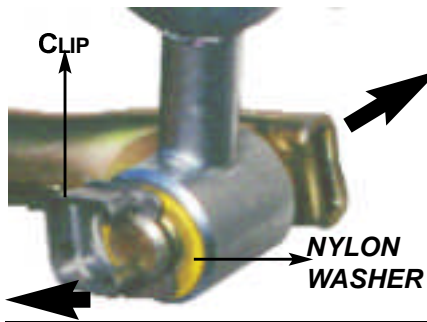


ALUMINIUM CONSOLE SETUP



QUICK INSTALL

A. Start From Below the Car - All Models



From below the car disconnect the selector rod from the shift lever.
 Remove **1.** retaining clip.
2. Nylon washer (when applicable)
3. Pull out selector rod.

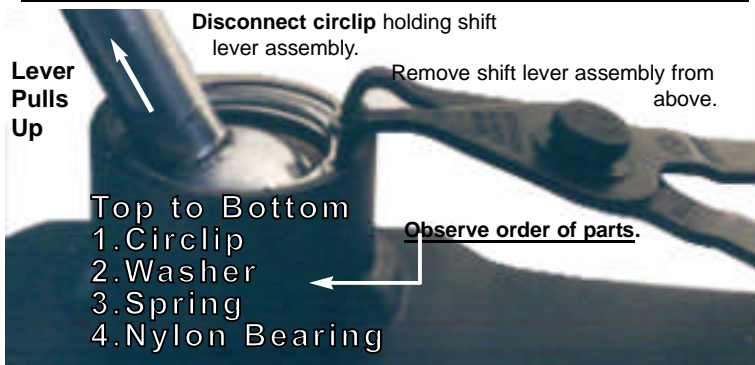
Note: If you are not planning to do the complete install you will not need to disconnect the rear mount. You only need to make sure that you have enough room to reconnect the selector rod on install.

B. Passenger Compartment - All Models

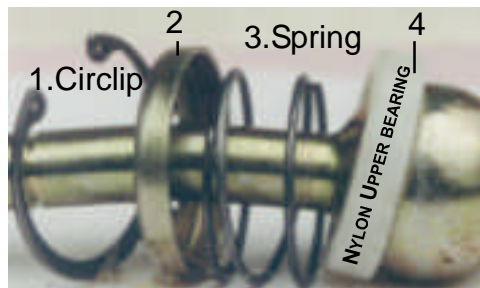
From inside the car remove shift knob
Thru 1979 knobs unscrew CCW (Counter Clock wise). Install is opposite
1980 on shift knobs pull straight up . Install see page 2
TIP remove shift knob with a quick upward jerk rather than a steady pull
TIP screw on shift knobs typically attach to a steel lever . push on knobs attach to aluminum levers. Test with a magnet if in doubt.
 Aftermarket knobs typically attach by tightening 3 set screws at base of knob.
 Remove outside shift Boot. (see page 6 for diagram)
TIP leather, vinyl or accordion shaped rubber boot can be pried with a screwdriver.. Tape tip of screwdriver to avoid scratching the interior.
 Remove insulating felt when applicable.
 Remove Rubber dust covers to expose top of shifter console



C. Lever Removal and Install- Steel console

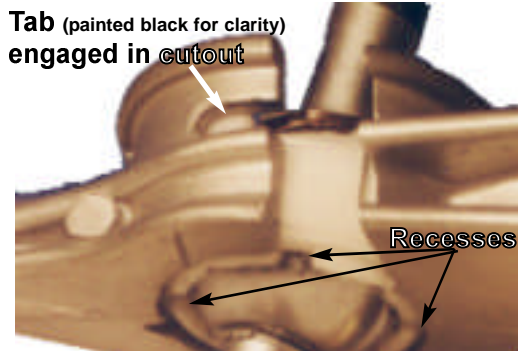


1. You have been provided with the complete lever assembly.
 Leave lower half-bearing in console. **Thread** your existing spring and Circlip in their appropriate position. Insert Lever Assembly into console Secure with circlip.



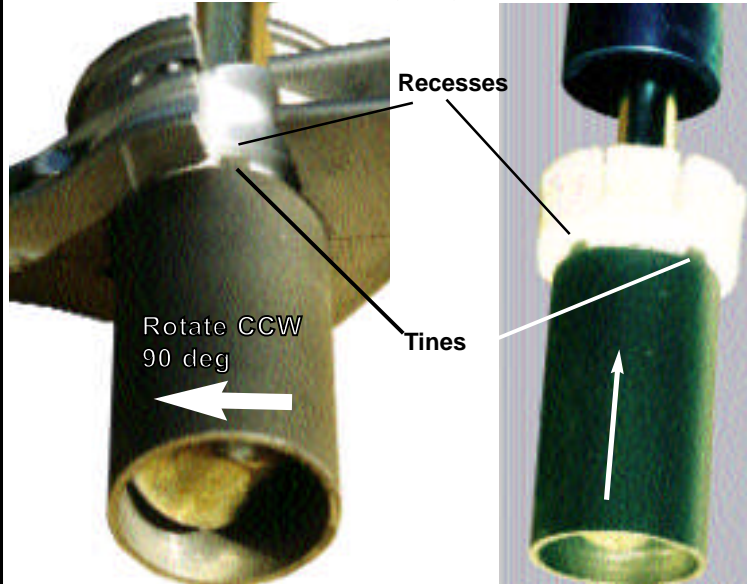
2. You only have the inner lever. Go to page 6

D. Lever Removal and Install. Aluminium

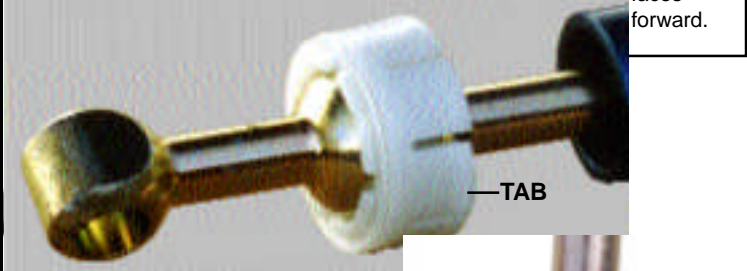


The shift lever is held in place with a one piece cup bushing. This bushing is secured to the console with two tabs that engage two cutout in the shift console. These tabs are disconnected from below the car using the optional supplied tool or a pair of needlenose pliers

From below the car engage the Tines of the removal tool into the recesses of the bushing. Turn CCW 90 degrees. Push upwards to disconnect the bushing . Remove shift lever from inside the vehicle by pulling straight up.

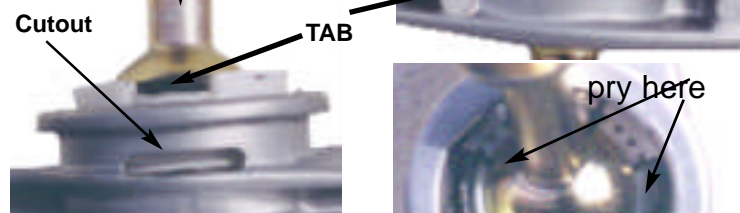


INSTALL: Insert one piece bushing on pivot ball. Align tabs on bushing with cutouts in shift console. Push lever assembly down until you hear the tabs engage the cutouts Note. Lubricate pivot ball with grease. Bend in shift lever faces forward.



1. Line Up Tabs with cutout in con

2. Push straight down until you hear the tabs engage



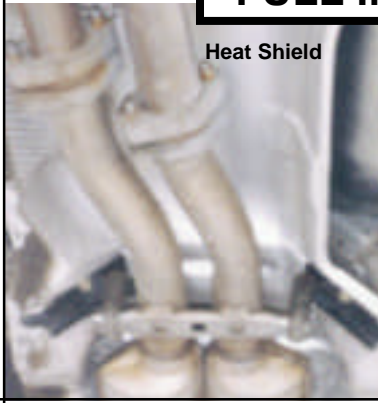
You may need to gently force the tabs to engage the cutouts . Pry gently between the pivot ball and the plastic tabs with a small blade screwdriver

FULL INSTALL

In order to remove the complete linkage **you need to access both the coupler and console connections at the transmission.** The degree of difficulty is dependent on several factors

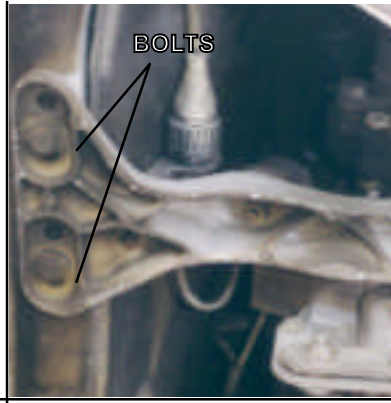
1. Car Model.
2. amount of rust on fasteners
3. access to underside of vehicle
4. size of your hands

The following instructions and tips are intended to be as general as possible. Examine your setup carefully You may not need to go through all the outlined steps.

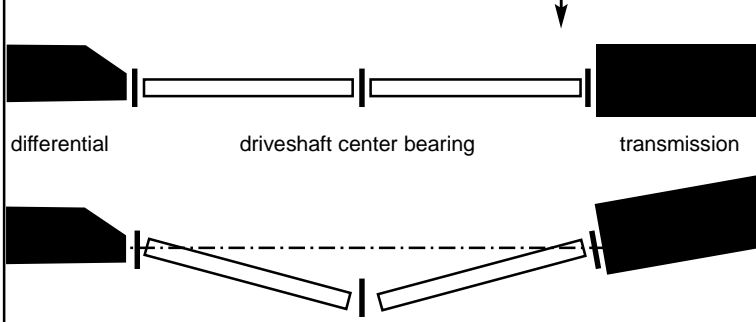


← **STEP 1:** If needed disconnect exhaust. (see tip)
All you are trying to do is get access at the rear console mount and also allow the transmission to swing down a bit to get access to the coupler and pin clip (aluminium console).

→ **STEP 2 :** disconnect transmission crossmember.
 Allow the transmission to swing down.



Note : Do not forget to **support the transmission before disconnecting the bolts.** Use a floor jack or other suitable mean. If you do not support the tranny the load will increase at the last attached bolt and the crossmember ear may break (This is especially common on aluminium 4 bolt crossmembers).



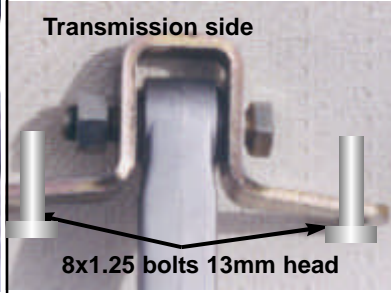
STEP 3: Disconnect exhaust shield **IF**
A. Need more room at the coupler/ Pin clip. The exhaust shield hides the driveshaft center bearing which when disconnected allows the tranny to swing even lower giving you more clearance .If there is a balancer around the transmission rubber coupler(guibo) it may be helpful to also disconnect the guibo and then swing the driveshaft out of the way
B. Need to remove the rear console mount Do it if your existing mount is shot . The best kit will yield poor results if the console that supports it is loose. If all you need to do is access the nut securing the rear mount simply slide the unbolted shield back a few inches .

Again remember **the objective here is to get clearance at the back of the transmission in order to disconnect the coupler and pin clip.**

Aluminium Console Disconnect
 A pin clip holds the shifting arm attached to the transmission ears. The clip has a tab that connects to a ridge inside the transmission ear.
Insert a small blade screwdriver between the clip and the ear

Rotate the screwdriver to the passenger side. This will pry the tab away from the ridge. Keep the clip under tension.

Keep the tension and lift the screwdriver up This will disengage the pin. Pull pin out from the left.



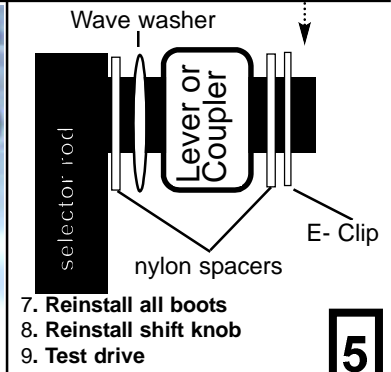
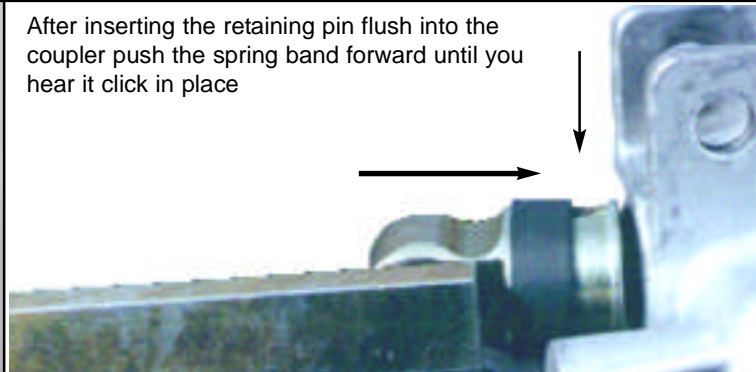
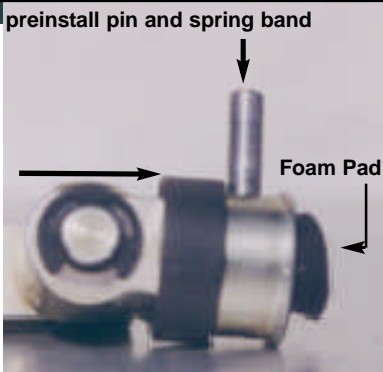
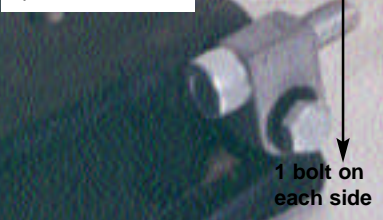
Steel console Disconnect .
 Remove the Allen head bolts connecting the aluminium isolation blocks to the transmission
 inspect blocks and replace if needed

Pry off spring band (thru 94 model year) or clip (95 and later). Lift one end with a small screwdriver then pry with a small screwdriver or a pick. (page 6)

Remove pin. Most pins can be removed in either direction . Some models will only come out upwards

INSTALLATION OF SELECTOR ROD
 Without disconnecting the coupler from the selector rod

1. **Preload spring band on coupler .**
2. **Push coupler on transmission shift rail.** This compresses foam pad inside coupler. Push pin down until flush
3. **Push spring band forward** until it clicks in place.
4. **Connect selector rod to bottom of shift lever** (note order of parts)
5. **Reattach console to transmission**
6. **Reattach rear mount to vehicle body** (page 3)



A. Installing the urethane/bronze front mount 1986-1994 cars

Press old bushing out



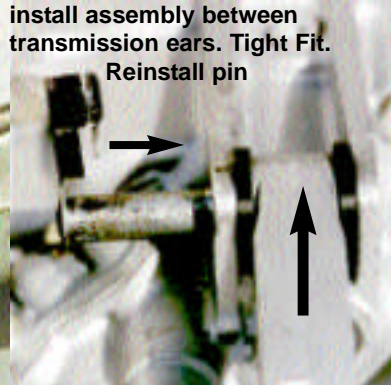
Press one half of urethane bushing with bronze sleeve already installed into housing



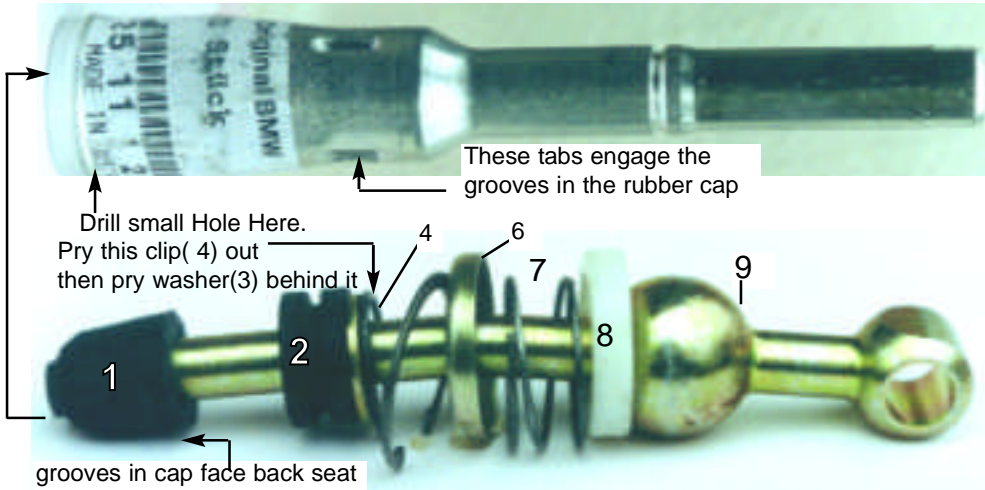
Bronze sleeve should protrude about 1/16 to 1/8 inch above housing to act as a guide when pressing the second urethane half



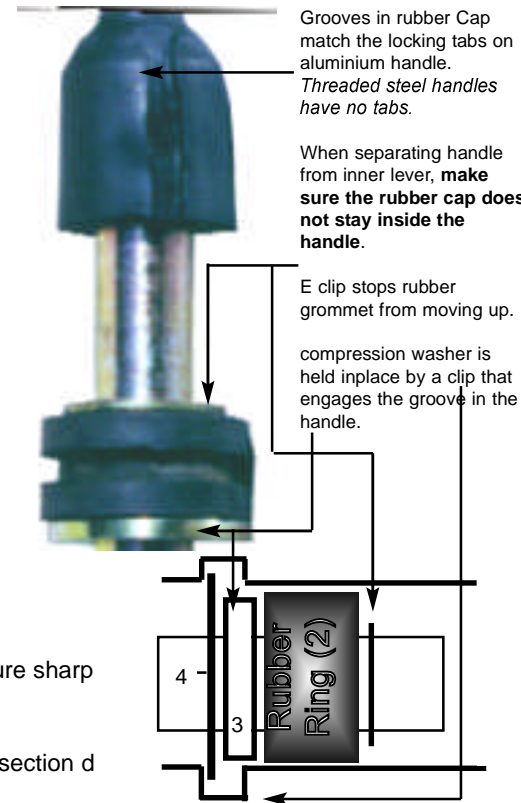
install assembly between transmission ears. Tight Fit. Reinstall pin



B. Lever disassembly and assembly



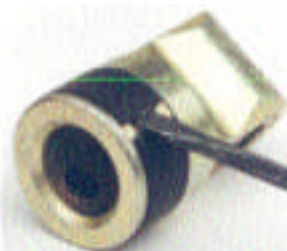
1. Drill a small hole at location shown and pry round wire clip out.
2. Gently pry compression washer (3) out of handle and pull inner lever and handle apart
3. Transpose parts (6) and (8) from stock inner lever to short shift lever.
4. Lubricate all rubber parts with liquid soap and insert short shift lever in stock handle.
5. Secure assembly with either the factory wire clip (4) or the supplied internal ring. Make sure sharp edge of ring faces out. (towards pivot ball 9)- See tip page 2
6. You will need to compress rubber ring (2) with washer (3) before securing with ring
7. Before installing assembly into steel console thread spring and clip as shown on page 2 section d



C. More details

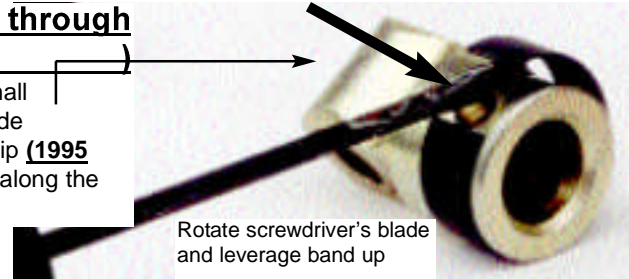
1. Pry off Spring Band (models through 1 9 9 4)

One way to remove the spring band is to use a small screwdriver with an approximately 1/8 inch flat blade. This method also works for the later style spring clip (1995 on) except that the screwdriver should be worked along the longitudinal axis of the transmission



push locating pin hard and slide blade under clip

1995 on direction of screwdriver



Rotate screwdriver's blade and leverage band up

2. Inner Boot setup

