

AIRHEAD CLUTCH CABLE REPLACEMENT AND ADJUSTMENT

CLUTCH CABLE ENDS- FITTING AND LUBRICATION

New control cables, correctly fitted and lubricated, are some of the nicest "gifts" that you can give to your old motorcycle, and will have a far greater effect on the nice feel as you ride.

1) The inner clutch cable does NOT get lubricant of any kind. The cable sheath has a Teflon sleeve that provides that function. (Non-OEM cables do not have that sheath, do whatever you want with them, they will wear out rapidly. Lube is a BAD thing for the inside of BMW cables, not a "what could it hurt?" thing. The lube attracts and holds abrasive dirt in the bends of the cable sheath.

2) Lubrication of the upper cable barrel is necessary, but cleaning of the lever pivot holes is necessary first. Take the lever off, clean and inspect the teflon bushing for close fit to the pivot pin, and for the presence of the anti-vibration wave washer. The washer is important to reduce lateral play in the assembly that causes wear. The cable barrel should be CLEAN and lubricated with light grease or non-petroleum lubricant like Gun Snot (my favorite because it repels dirt.)

2a) Prior to reinstalling the lever, bench-check the fit of the barrel with cable inserted as if in use. If you have one of the newer cables, with the hexagonal swaged part on the nipple, dress that hex portion where it travels through the lever slot. Clean up any debris from filing the swaged nipple. I don't recommend widening the slot in the lever, as the nipple needs to be smooth as well as proper dimension. See more on this topic at the end of this article.

3) The lower cable barrel fitting on the clutch lever arm should be CLEAN, should FIT the u-shaped lever arm fingers smoothly and easily, and be lubricated with light grease on the barrel OD, the ID of the arc of the "fingers."

4) The rubber accordion boot at the lower cable end should be clean, wiped with Armoral to extend the rubber life, and fitted snugly onto the end of the outer sheath nipple where it projects rearward from the attachment point in the transmission housing.

CLUTCH CABLE ROUTING, ADJUSTMENT AND MAINTENENCE

There should be ONE tie wrap on the clutch cable, midway down the right-side frame down tube. This should be snug, not tight. Route the cable so that there are no severe bends, and you may need to loosen the motor mount nuts to fit the cable in below the pushrod tubes. Torque the nuts to 55 foot pounds afterward. If the old cable is the OEM part, it may be routed correctly, just follow the routing. It's easiest if you use some masking tape to attach the new cable to the old one and pull it through. Just handle the cable gently. They can be damaged by rough handling on installation.

The cable should NEVER be lubricated, but it IS necessary to lube the barrels on each end annually. Also check that the hole in the hand lever is clean and free of dirt.

Do a complete, "from scratch" cable adjustment after replacement. To do this:

1) Replace cable, both ends now disconnected.

2) Loosen locknut at transmission lever, slacken adjuster screw several turns out.

3) Insert top end of cable through adjuster, into the lever slot, pushing it WAY in to the lever. Slip the greased barrel up onto the cable, and pull the cable back to engage the barrel on the cable. Clean and examine all parts to see that the barrel only goes in one way.

4) If the cable is routed properly, and the top barrel seated correctly, you should be able to hook the barrel on the lower end into the forked clutch arm at the transmission.

5) The first adjustment is made with the large threaded adjuster at the top, lever end of the cable. You need to measure the cable dimension at the LOWER end, and make the adjustment at the TOP end. The dimension should be PRECISELY 201 mm (7-15/16") from the rear face of the transmission where the cable comes through, to the near edge of the cable barrel. You may need to turn the top adjuster out quite a ways to obtain that dimension. Squeeze the clutch lever and re-measure, as that will seat everything.

The easy way to measure the 201 mm is to cut a piece of coat hanger to the exact length and use it as a gauge. Put a piece of duct tape on the middle like a flag, write "BMW Clutch Adjustment 201mm" and you got a free BMW Special Tool.

6) The second adjustment is made at the rear of the transmission, using the adjuster screw and locknut on the clutch arm. Turn the adjuster bolt in until there is NO free play on the cable, determined by lightly pulling the lever with one finger and looking at the gap at the hand lever where the cable passes through. Once you have removed all free play, back out the adjuster just enough to give 2-4 mm freeplay at the hand lever. To hold the adjustment while securing the locknut, just pull and hold the clutch in with your left hand while snugging the locknut with your right hand.

Test ride the bike, and recheck the two dimensions after the bike cools off. You will note that the freeplay will change slightly when the bike heats up. Don't readjust when hot. If you have the cold play adjusted correctly, there will be adequate freeplay to accommodate the change when hot.

This works with all airheads after 1970. The factory first defined this procedure with the introduction of the 1981 models with the new clutch/transmission design, but the procedure was well known to BMW dealers for years before. I learned it in Service School in 1973.

THERE IS A PROBLEM WITH SOME LATER-PRODUCTION BMW REPLACEMENT CABLES

<<Zeno Lee posted: " Supposedly this cable was recently replaced by the PO. Thought not conclusive, I can believe that he had it replaced recently as the cable outer looks new with no signs of fading on the part number compared to the crud lined original cables that are its neighbors. I'm wondering what could have caused such a short life. One thing I noticed is that PO had high US bars but was using the low-bar cable part 32 73 2 324 958. I swapped out the bars for a lower "S" bar but not quite as low as the Euro bar. I just received my replacement cable with 957, which is a bit longer too and wanted to make sure this had a longer life than this. Are there any grease points required in the clutch lever assembly?

Any reason why the fraying could happen as shown in the picture?" >>

The problem with new BMW clutch cables is NOT lubrication. BMW changed suppliers or vendors of the control cables about a decade or so ago. There have been myriad cable fitment and quality issues since that time. The issue with the clutch cable premature failures (very common, BTW) is that the upper swaged nipple is now crimped with a hexagonal die instead of a round die, as was used on the original cables. The hex-shaped part of the swaged nipple is too large in cross-section to pass through the slot in the clutch lever as the lever is pulled and the barrel rotates through its range. Look closely and you will see where the nipple is hanging up and causing the cable to bend right at the end of the nipple. That bending will cause a very rapid failure of the cable. The fix is to carefully file the hex-shaped part of the nipple round so that it passes freely in the slot in the clutch lever.