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UMK-77 Universal Master Cylinder Kit

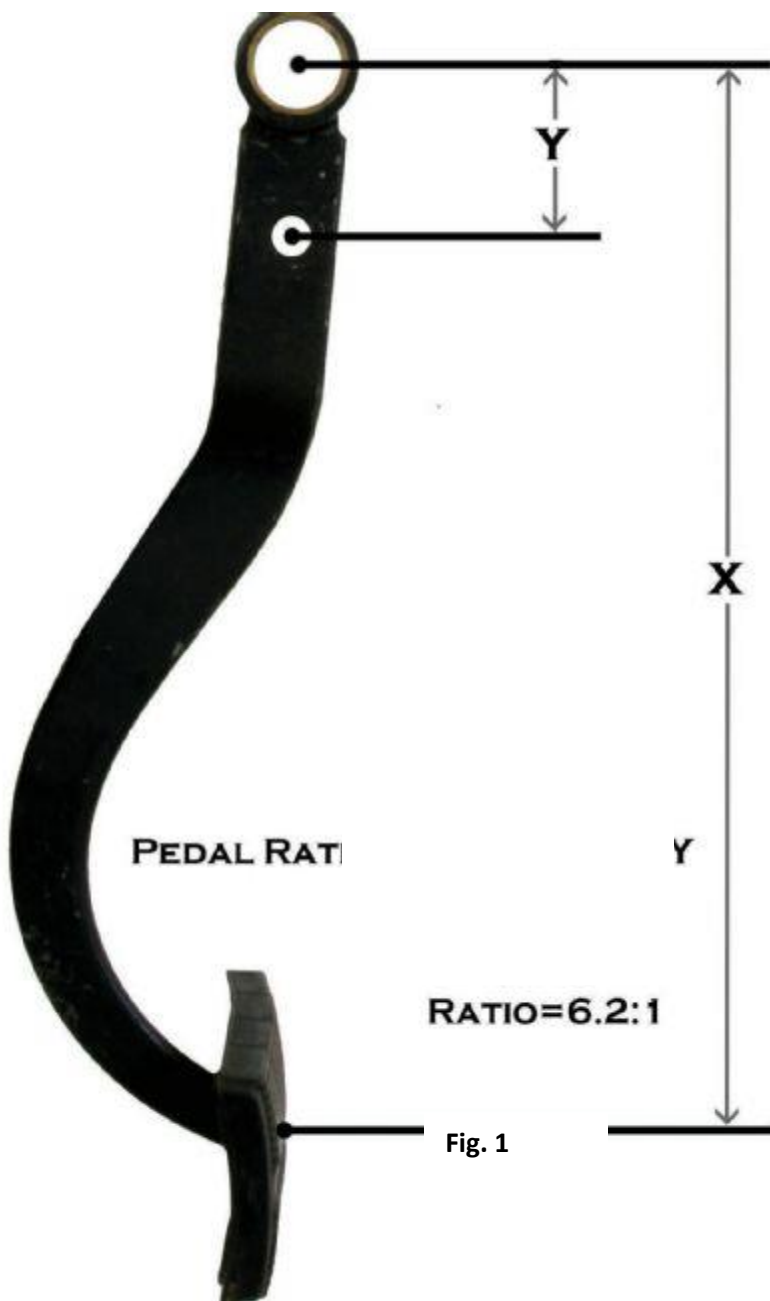
Parts List

- 1 – Tilton 77 master cylinder
- 1 – Fitting -4 AN x 9/16 w/copper washer – into master cylinder for fluid input from reservoir
- 1 – Fitting -4 AN female with hose barb – reservoir line to master cylinder
- 1 – Fitting -4 AN 90 degree w/ O-ring – fluid output to release bearing
- 1 – ¼ -20 SS shoulder screw
- 4 – 1/4 -20 x ¾ serrated flange head bolts – to secure mounting plate to master cylinder bracket
- 1 – Left and Right hand threaded tube – to connect push rod to clutch pedal
- 1 – Spherical tie rod end – attach to threaded tube and clutch pedal
- 1 – Billet Aluminum master cylinder bracket assembly
- 1 – Plastic fluid reservoir
- 1 – reservoir to master cylinder feed line
- 1 – 24” SS braided line – to connect master cylinder to release bearing
- 1 – male coupler fitting -4 AN to -4 AN



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How to measure for proper pedal ratio



Example:

X = 11.625"

Y = 1.875"

Ratio = 6.2:1

For optimum pedal effort you want target your mounting hole for a 6:1 Ratio



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- **Master cylinder mounting**

Achieving proper geometry when installing the master cylinder is critical to a properly functioning hydraulic clutch system. It is important to make sure that master is mounted securely to the firewall. Proper placement of the master cylinder push rod on the clutch pedal is also critical.

If positioned too high on the pedal, there will not be enough push rod travel which will not allow the clutch disc to disengage when the pedal is depressed. If positioned too low on the pedal, the pedal will become hard to depress. You want to target a 6:1 pedal ratio.

- **Bleeding the hydraulic clutch system**

Bleeding a hydraulic clutch system tends to be more difficult than bleeding a brake system. To help make bleeding as easy as possible, make sure that the fluid line running from your master cylinder down to your hydraulic bearing does not have a loop in it. A loop in the line tends to trap air at the top of the loop making it difficult to bleed. Additionally, a vacuum or pressure bleeder is recommended as opposed to using the "pump the clutch pedal" method. * Use only DOT 3 Fluid,

- **Using a pedal stop with a hydraulic TO bearing system**

Failure to use a positive pedal stop can cause bearing o-ring failure if the clutch pedal is pressed too far. A failed o-ring requires removal of the transmission to replace it.

- **Adjusting the pedal travel**

1. Park the vehicle on a slight incline so that when the clutch is fully released, vehicle will start to roll.
2. Depress clutch pedal slowly until vehicle starts to roll, indicating that the clutch is disengaged. At that point, set the brakes.
3. ****IMPORTANT**** Accurately measure the distance between the pedal and the firewall, and adjust travel stop so pedal does not exceed the distance of full clutch release. If your vehicle does not have an adjustment for pedal travel, then you will have to fabricate a pedal stop.
Excess pedal travel after clutch disengagement can cause the master cylinder or slave cylinder to fail.

NOTES

1. A pedal stop may be attached to the pedal or the firewall. A bracket with a bolt and a jam nut work nicely so that the stop is adjustable for more or less travel.
2. A 6 to 1 ratio is recommended with a 3/4" or 13/16" bore master cylinder. Example: If your pedal measures 12" from the pivot point to the pedal foot pad, you should NOT connect your push rod to the pedal any further than 2" down from the pivot point of the pedal.

