INSTALLATION INSTRUCTIONS

98-1280

Flow Control Valve

INTRODUCTION

Shock loads created during shifting events can have two very detrimental effects. They can cause the drive wheels to lose traction and they can damage drivetrain components (broken axles, transmissions, etc.). A shock load is the result of an abrupt clutch engagement when the crankshaft and input shaft speeds are not precisely matched. The Tilton flow control valve reduces shock loads by allowing the clutch to slip slightly during engagement. This is accomplished by restricting the return flow of the hydraulic fluid by a tunable amount. Fluid flow is not restricted during disengagement. Therefore, shift times are still quick and the feel of the pedal is not altered. This valve will have an effect on quick clutch actuations only. It will not alter fine clutch modulation (small pedal movements).

SELECTING THE ORIFICE SIZE

1. The three digits on the piston indicate the orifice size. For example, '040' indicates .040".
2. A larger orifice creates a more abrupt clutch engagement. A smaller orifice softens the engagement a little more by allowing the clutch to slip a few revolutions.
3. It is generally recommended to start with the largest provided orifice size and work your way down. The size you need depends on the clutch spring force, the number of friction plates, the clutch diameter, the weight of the vehicle, front drive vs. rear drive, tire size, and a few other factors. Therefore, a little testing may be required.
4. Assemble in the order shown in the diagram. Torque the two halves together at 30 lb-ft (68 Nm).
5. If the orifice size is too large the engagement will still be very abrupt.
6. If the orifice size is too small you will see signs of excessive heat buildup or wear in the clutch.

INSTALLING THE VALVE

1. Make sure that the fluid system is without contaminants. Flush the system if in doubt.
2. Find a location. This valve will work anywhere in the hydraulic line between the master cylinder and the hydraulic release bearing. Each end of the valve has -3AN fittings for use with most Tilton master cylinder ports and -3 hydraulic lines. Threading directly into the master cylinder provides an easily accessible location.
3. Free flow is required in the direction of clutch disengagement (while depressing the pedal). The arrows next to the word 'FREE' must point away from the master cylinder.
4. Install the valve in the line. These fittings seal best without the use of pipe tape or sealing compounds. Torque the fitting to the line or master cylinder to 15 lb-ft (20 Nm).
5. Bleed the clutch system as you would normally bleed it.