

GENERAL MOTORS 4L60E/4L65E/4L70E



Several changes have occurred on the 700R4/4L60E family of transmissions since 1982. One of the more recent design changes, which started to be phased into early 2006 models, has resulted in another model name, 4L70E.

An input speed sensor (ISS or TSS) was added due to a computer strategy change, which has affected several components. All components from a specific design level must be used as a set, or durability/functionality issues will occur (**NOTE**: this does not apply to all 2006-Up models).

Following are the components affected:

Input Speed Sensor

The ISS **D74438G** is a long probe, which extends through a hole in the pump cover casting to read the input shaft reluctor RPM. Always ensure that the O-ring is in position or leaks will occur. The sensor pigtail connects to the TCC harness. (1)



ISS Sensor Hole (1)

TCC Solenoid/Harness

The TCC apply solenoid harness **D74425NE** was also modified to accommodate the ISS electrical plug.

Pump Cover/Shaft

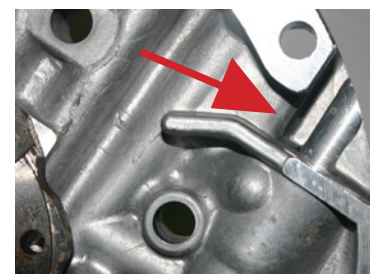
Changes in the pump cover were phased in beginning in early 2006, and specific model applications will dictate which design is required. The key here is having the right combination. There are three main areas of concern:

1. Is the hole drilled for the ISS or not?
2. Does the stator support sleeve have the large sensor hole?
3. Does the cover require the long or short boost valve/sleeve?

The newest cover casting #24230672 has a cut-out for the harness plug, and requires the short boost valve/sleeve.

NOTE:

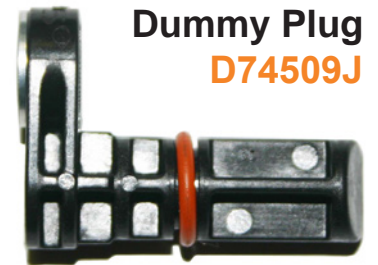
The cover may or may not be drilled for the ISS or have the large hole stator sleeve. If the cover is drilled for the ISS and has the large sensor hole in the sleeve, it must be matched to a reluctor type input shaft due to the ring grooves/stator sleeve holes being repositioned (regardless of the reluctor grooves being cut).



ISS Harness Pathway

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1. Fill in the ISS hole with either the sensor **D74438G** or dummy plug/
O-ring **D74509J** depending on requirements.
2. Use the proper input shaft/stator sleeve match as well as the correct
length of input/stator (298mm short/300mm long).
3. Ensure the correct boost valve/sleeve is used, based upon the bore
depth of the cover or oil hole position, or PR spring compression
will be affected.



NOTE: Earlier interim covers I.E. (24206611, HX024075) have
different arrangements as well.

Boost Valve/Sleeve - Not only are there two lengths of sleeves (93-05 1.900/06-Up 1.800),
but also two different valve diameters.

Part #	Year	Sleeve Length	Valve Diameter
D74507FD	93-05	1.900	.471
D74507EK	93-05	1.900	.506
D74507FE	06-Up	1.800	.471
D74507TDK	06-Up	1.800	.506



Input Shaft/Housing - Beyond the array of design changes on the input shaft/housing to
date, are torque converter variations requiring different input shaft lengths and diameters I.E.
(245mm, 298mm, 300mm, etc) and the corresponding stator support.



w/o reluctor



w/ reluctor

**Now the concern is the position of the sealing ring
grooves due to the reluctor (sensor ring) being
added and how it relates to the stator shaft oil holes.
The new design input must be used with the ISS
stator shaft or problems will occur.**