TCS MANCINI RACING
THE ORIGINAL MOPAR DIRECT CONNECTION WAREHOUSE
eFormation newsletter

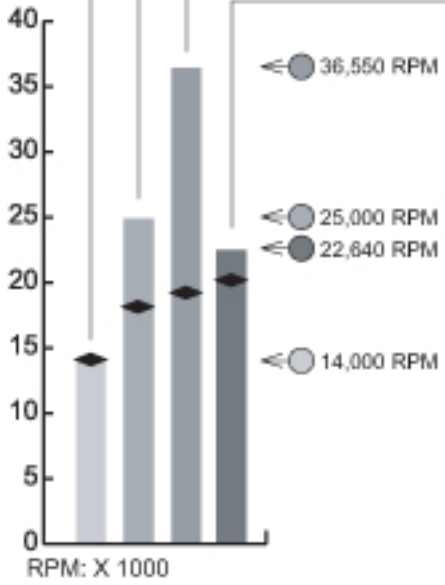
727 HIGH GEAR CLUTCH DRUM EXPLOSION TESTING

O.E.M.
14,000 RPM failure speed
OEM Cast Steel High Drum

Part #K123900S
25,000 RPM failure speed
TCS Steel High Drum

Part #K123900
36,550 RPM failure speed
TCS Aluminum High Drum

Part #K123900AS
22,640 RPM failure speed
TCS Alum/Steel High Drum



TEST RESULTS:

At TCS Products, we submitted 3 of our 727 High Gear Drums along with a cast steel OEM drum for independent destructive testing. We did this to ensure that the products we were manufacturing could endure the environments that they are intended for and specifically what could happen in a 727 transmission if the sprag were to fail (sprag failure can cause the front drum to increase in RPM by a factor of 2.2 times engine speed). The drum photos and results displayed below tell the story.

Destructive testing for these drums involves spinning the drums up in 1,000 RPM increments starting at 10,000 RPM until the drum actually explodes. After each "pull" the drums are checked for any distortion. Once a drum experiences significant distortion it is, for all intents and purposes as good as blown.

The results clearly show that all 3 of our drums began to experience distortion at the following RPM;

- *OEM Cast Steel Drum - 14,000 RPM.*
- *Steel Drum - 18,000 RPM.*
- *Aluminum Drum - 19,000 RPM.*
- *Aluminum Drum/Steel Sleeve - 17,000 RPM.*

These drums exploded at the following RPM;

- *OEM Cast Steel Drum - 14,000 RPM.*
- *Steel Drum - 25,000 RPM.*
- *Aluminum Drum - 36,550 RPM.*
- *Aluminum Drum/Steel Sleeve - 22,640 RPM.*

(Distortion results are indicated in the test graph with a ◆ symbol)