



ACCESSORY DRIVE MANDREL INSTRUCTIONS
STR.04.07.000; STR.18.05.000; STR.18.12.000
WITH OR WITHOUT V-PULLEY

The mandrel contains a Chevrolet and Ford bolt pattern. Chevrolet = 3 bolts on Ø3.200"; Ford = 3 or 4 bolts on Ø3.300". The machined hub (Ø 2.274") found on the rear of the mandrel must fit neatly into the balancer or the trigger wheel (note that the trigger wheel must run true with the balancer) in order to insure that the mandrel runs true as well. Mounting screws (alone) will NOT position the mandrel well enough to have it running true with the balancer/crankshaft. A traditional balancer retaining bolt and washer MUST be used to properly secure the balancer before attaching the mandrel. When installing the mandrel be sure that the balancer retainer bolt does not come in contact with the relieved area in the rear of the mandrel preventing it from sitting flush with the balancer or crank trigger. Do not remove material from the mandrel to allow the balancer bolt to clear. It's best to space the mandrel out or find a bolt that will fit without any changes.

If you are using the optional V belt pulley, the pulley must be attached to the mandrel before installation, using ALL six flat head screws provided. We highly recommend ALL screws be installed with a medium strength removable thread locker.

INSTALLING ADDITIONAL PULLEYS

The mandrel is supplied complete with all necessary hardware, spacers, 1 ¼" hex hat nut and two pulley flanges to accommodate one Star Machine vacuum pump pulley (supplied separately). We recommend that any pulleys used on this mandrel be placed as close to the balancer where possible. Since it is known that some external oil pumps can require as much as 10 HP to turn, we highly recommend that any pulley placed on this mandrel to drive an external oil pump be placed closest to the balancer. Since the mandrel is splined the entire length to accommodate the corresponding splines found in the hex hat nut, the mandrel can be shortened if necessary without having to re-machine these features.

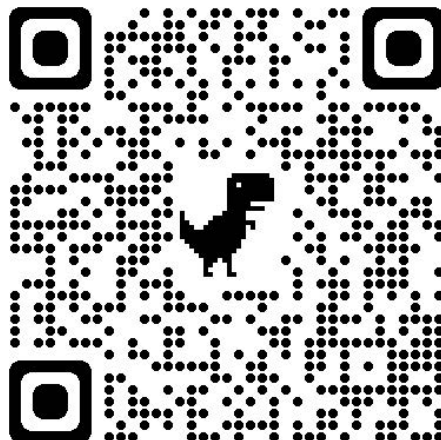
The long black spacer can be shortened to accommodate other pulleys and/or pulley flanges. When shortening the mandrel, remember that when assembled, the inside of the hex hat washer MUST NOT bottom out on the face of the mandrel. Star Machine recommends a gap of 0.025 to 0.050" be maintained in order for all components on the mandrel to be tightly squeezed together when tightening the hex hat nut retaining bolt. The key must also be shortened and NEVER come in contact with the face of the flange on the hex hat nut. A medium removable strength thread locker should be used on the hex hat nut retaining bolt at final assembly (TQ=28lb/ft).

The 7075 hard coated and splined hex hat nut can now be used confidently for years to rotate the engine in either direction without loosening or over tightening a long crank bolt. Additional pulley flanges and other components are available from Star Machine. These instructions as well as instructions for all Star Machine products are available on our web site.

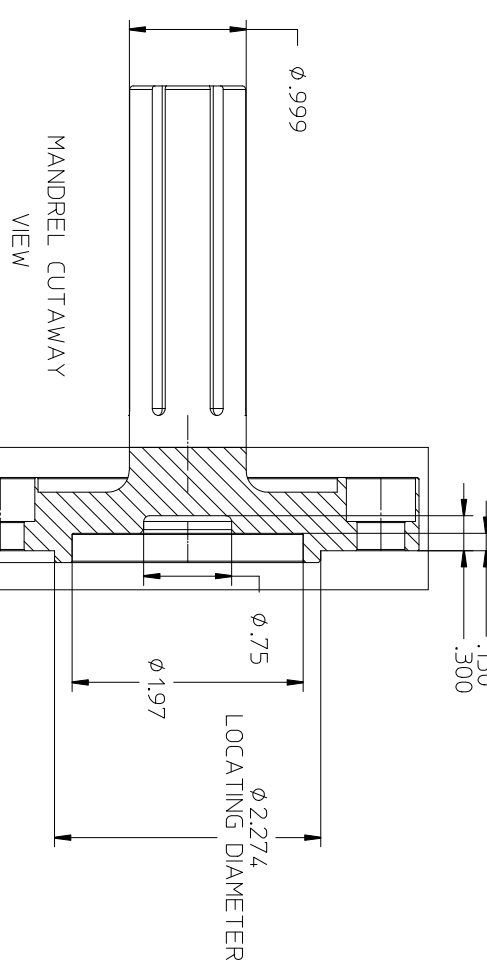
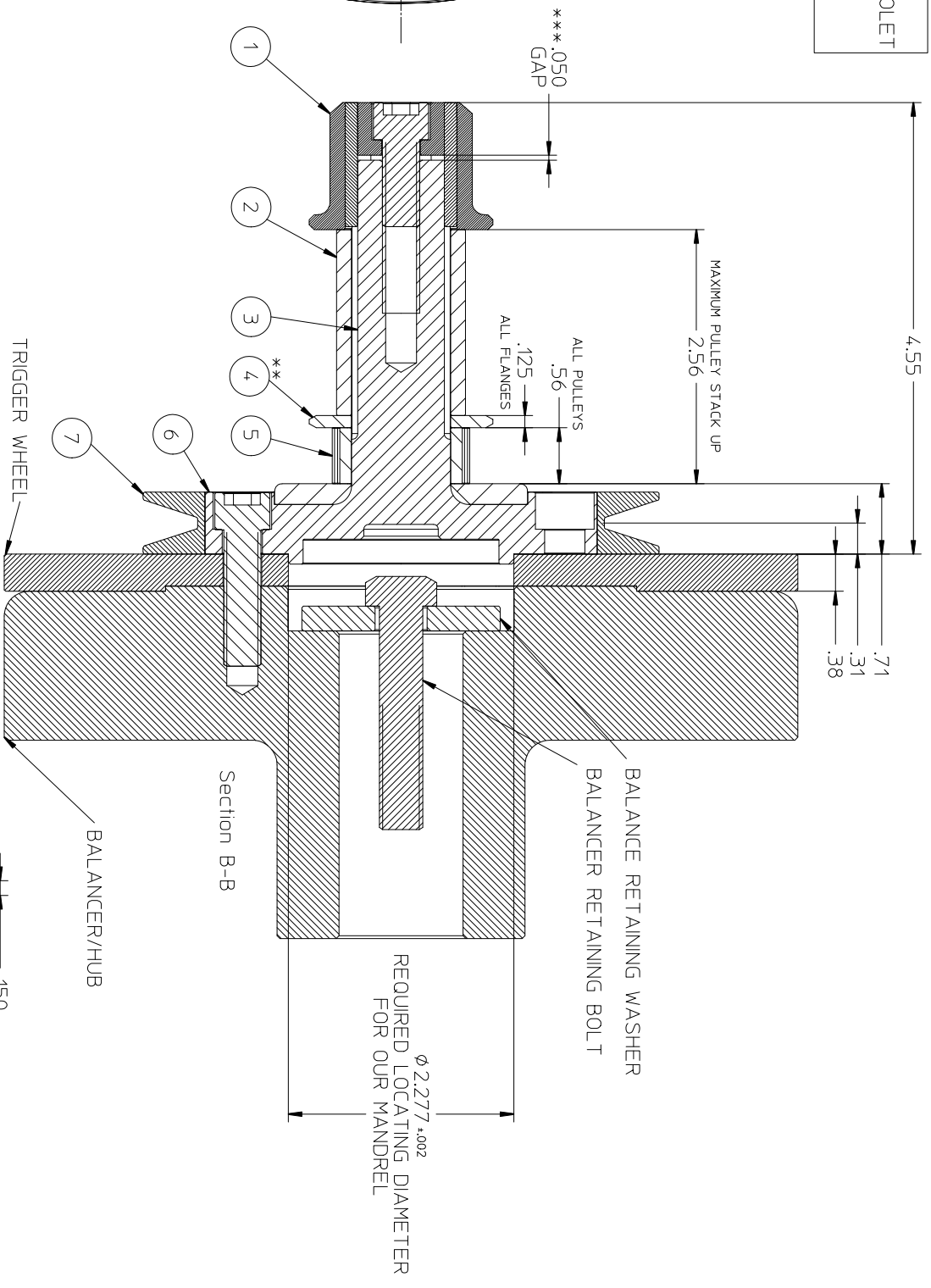
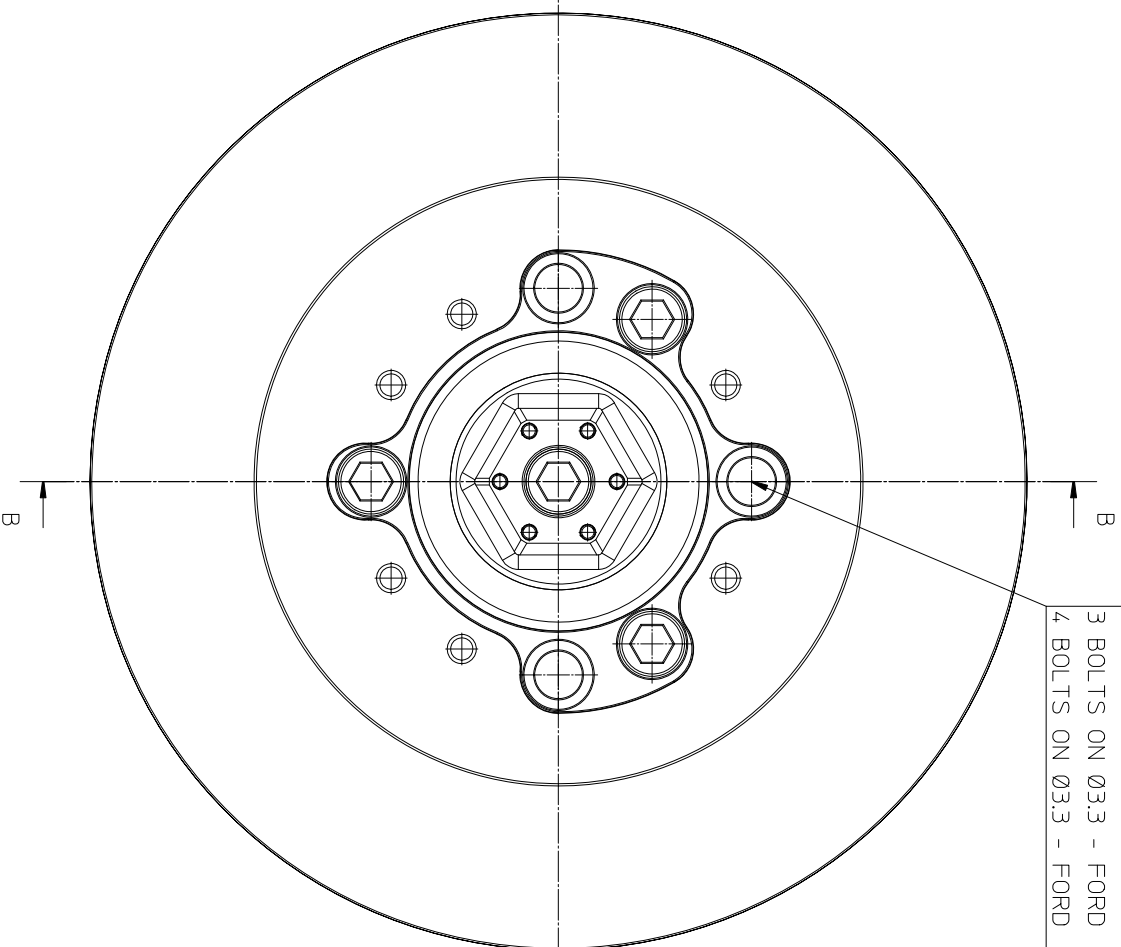
FOR MORE DETAILED INFORMATION ON ALL OUR PRODUCTS VISIT US AT
STARVACUUMPUMPS.COM

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MOUNTING BOLT PATTERN:
 3 BOLTS ON Ø3.2 - CHEVROLET
 3 BOLTS ON Ø3.3 - FORD
 4 BOLTS ON Ø3.3 - FORD



DETAIL	PART NUMBER	DESCRIPTION
1	STR.04.07.003	DRIVE NUT (1.25" ACROSS FLATS)
2	STR.04.07.006	SPACER (1.875" LONG)
3	STR.04.07.008	KEY DRIVE 0.125" SQUARE X 2.35" LONG
4	STR.04.07.004	FLANGE - BELT GUIDE Ø1.85" FOR 12 & 14 TOOTH PULLEYS
4	STR.04.07.005	FLANGE - BELT GUIDE Ø2.3" FOR 16 & 18 TOOTH PULLEYS
5	STR.99.09.012	DRIVE PULLEY (12 TOOTH)
5	STR.99.09.014	DRIVE PULLEY (14 TOOTH)
5	STR.99.09.016	DRIVE PULLEY (16 TOOTH)
5	STR.99.09.018	DRIVE PULLEY (18 TOOTH)
6	STR.18.12.030	MANDREL
7	STR.18.12.031	V PULLEY (Ø5.2")

*** MAINTAIN GAP, BETWEEN 0.025" AND 0.050" WHEN MAKING CHANGES TO THE MANDREL. THIS ALLOWS THE DRIVE NUT TO CLAMP THE ASSEMBLY TOGETHER.

** TO PREVENT BELT LOSS ALWAYS USE A FLANGE ON BOTH SIDES OF ALL PULLEYS

* WHEN ALL MODIFICATIONS ARE COMPLETE APPLY MEDIUM/REMOVABLE STRENGTH THREAD LOCKER TO ALL FASTENERS

REV.	DESCRIPTION	DATE
2		
1		
0		

STAR MACHINE 7810 OAK AVENUE PARKVILLE, MD. 21284		HEAT TREATING MANDREL, CHEVROLET & FORD
LINEAR (INCHES) 0.005 - .10 ± 0.005 .1 - .50 ± 0.010 .5 - 1.00 ± 0.015 1.0 - 2.00 ± 0.020 2.0 - 5.00 ± 0.030 5.0 - 10.00 ± 0.050	ANGULAR 0.80 ± 0.50 1.60 ± 0.50 3.20 ± 0.50 6.40 ± 0.50 12.80 ± 0.50 25.60 ± 1.00	DEPTH DESIGNED BY T HIGDON
GEOMETRIC (INCHES) 0.05 - .10 ± 0.005 .1 - .50 ± 0.010 .5 - 1.00 ± 0.015 1.0 - 2.00 ± 0.020 2.0 - 5.00 ± 0.030 5.0 - 10.00 ± 0.050	SURFACE PREPARATION FINISH	SCALE 1" = 1"
BREAK ALL EDGES UNLESS SPECIFIED		SHEET 1 OF 1 SIZE C
THE DRAWING IS THE PROPERTY OF STAR MACHINE IT SHALL NOT BE DISCLOSED OR COPIED WITHOUT THE WRITTEN AUTHORIZATION OF STAR MACHINE		DRAWING NO. STR.18.05.000