



**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 bolt pattern (3.200" Ø) and should fit any BBC balancer with or without an MSD trigger wheel or a small block with a trigger wheel. 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 on center. 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 one pulley flange 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.

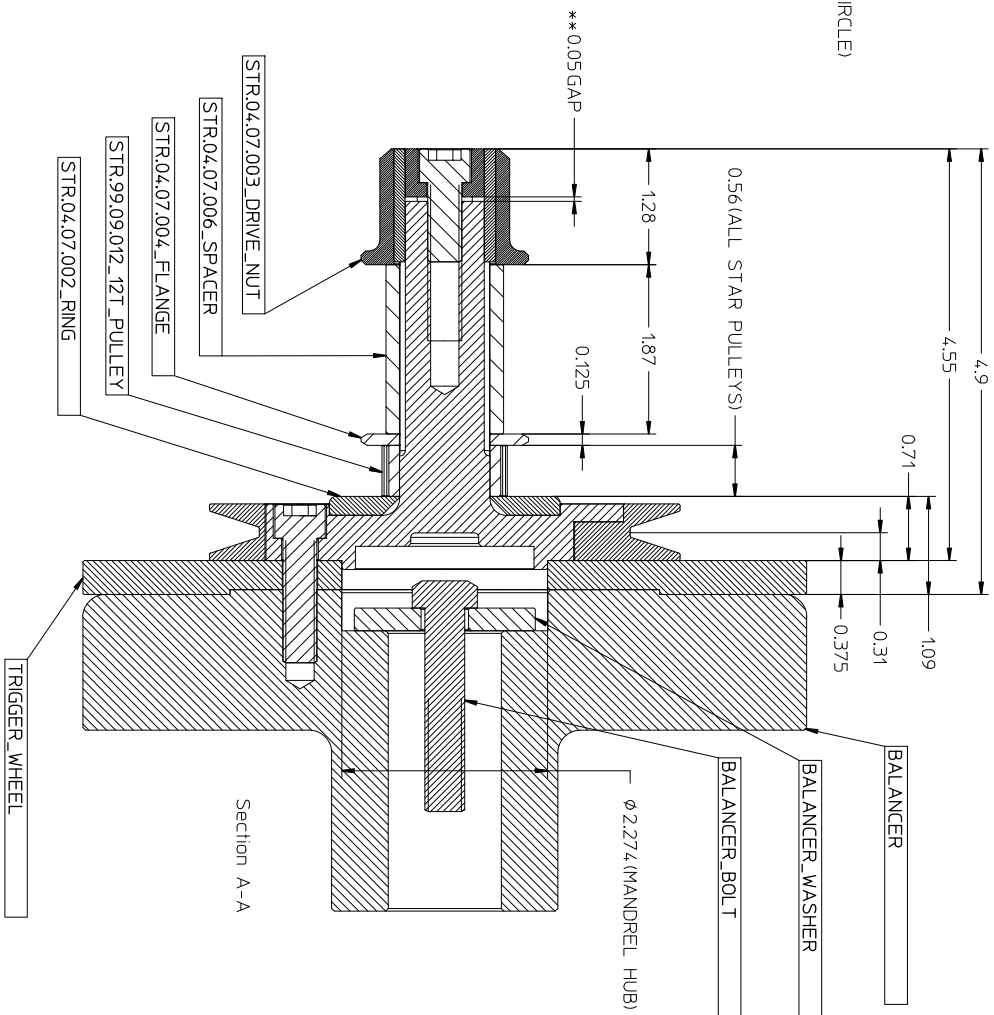
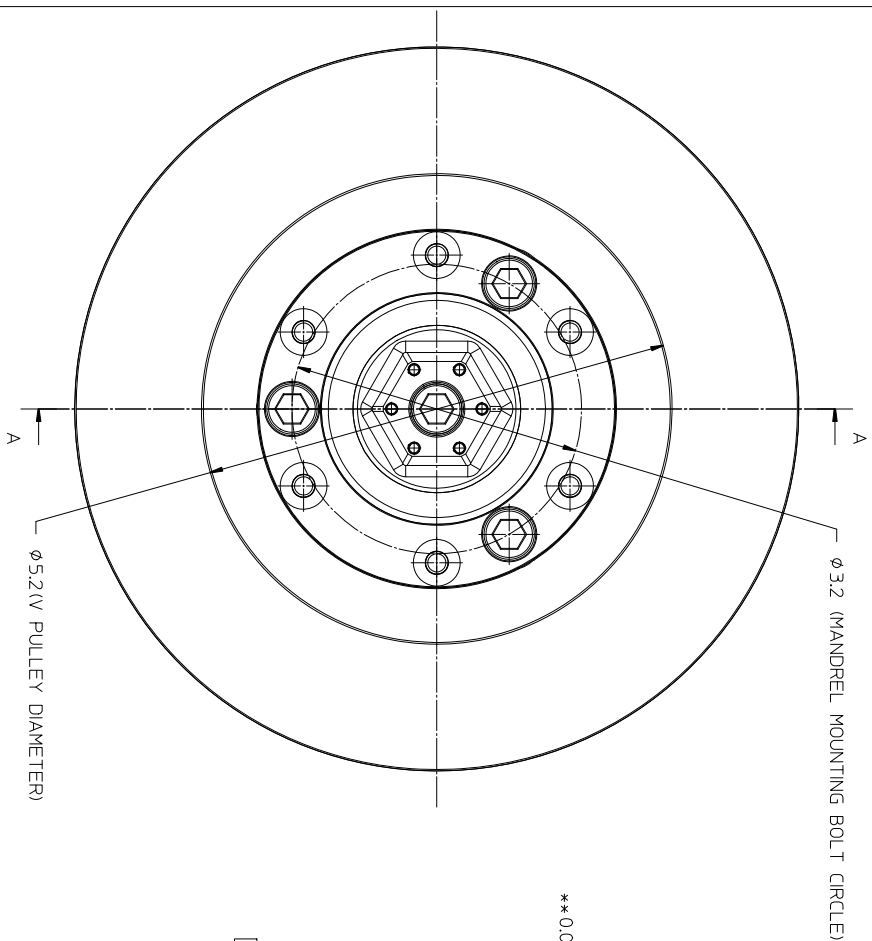
The 7075 hard coated and splined hex hat nut can now be used confidently for years to rotate the engine in either direction without loosening or over tightening a long crank bolt. Additional pulley flanges and other components are available from Star Machine. These instructions as well as instructions 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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TRIGGER WHEEL, BALANCER, BALANCER WASHER AND BALANCER BOLT ARE SHOWN FOR LAYOUT PURPOSES ONLY. THEY ARE NOT INCLUDED WITH THE MANDREL.



- ** WHEN MAKING CHANGES TO THE MANDREL: MAINTAIN A GAP . BETWEEN 0.025" AND 0.050". THE GAP 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 USE A REMOVABLE MEDIUM STRENGTH THREAD LOCKER ON ALL FASTENERS.

ADDITIONAL PARTS:

FULL LENGTH KEY (NOT SHOWN) STR.04.07.007

AVAILABLE STANDARD PULLEYS (Ø1" BORE WITH .125" KEYWAY)

STR.99.09.012 - 12T

STR.99.09.014 - 14T

STR.99.09.016 - 16T

STR.99.09.018 - 18T

AVAILABLE FLANGES:

STR.04.07.004 (Ø1.85") FOR 12T TO 14T PULLEYS

STR.04.07.005 (Ø2.30") FOR 16T TO 18T PULLEYS

REV.	DATE	DESCRIPTION
2		
1		
0		

STAR MACHINE 2810 SAK AVENUE PARKVILLE, MD 21234		REVISION DESCRIPTION ASSEMBLY, MANDREL WITH V PULLEY
TOLERANCES UNLESS SPECIFIED: FRACTIONS DECIMALS ANGULAR 11-- 1/16 ± 0.010 0.125 ± 0.005 0.000 ± 0.000 13-- 1/32 ± 0.005 0.062 ± 0.002 0.000 ± 0.000 14-- 1/64 ± 0.002 0.031 ± 0.001 0.000 ± 0.000 15-- 1/128 ± 0.001 0.016 ± 0.000 0.000 ± 0.000 16-- 1/256 ± 0.000 0.008 ± 0.000 0.000 ± 0.000 17-- 1/512 ± 0.000 0.004 ± 0.000 0.000 ± 0.000 18-- 1/1024 ± 0.000 0.002 ± 0.000 0.000 ± 0.000 19-- 1/2048 ± 0.000 0.001 ± 0.000 0.000 ± 0.000 20-- 1/4096 ± 0.000 0.000 ± 0.000 0.000 ± 0.000		DEPTH DESIGNED BY T HIGDON MATERIAL SCALE 1 OF 1 SHEET SIZE C DRAWING NO. MANDREL
FINISH SURFACE PREPARATION BREAK ALL EDGES UNLESS SPECIFIED		HEAT TREATING HARDNESS THE DRAWING IS THE PROPERTY OF STAR MACHINE NO PARTS TO BE LOANED, REPRODUCED, COPIED, OR THE MATHS REPRODUCTION OF STAR MACHINE