

DO-IT-YOURSELF INSTRUCTIONS FOR DRAWBAR ASSEMBLY

PARTS LIST

This "KIT" consists of a drawbar head blank, with the spline pre-machined and hardened, and a drawbar rod blank, with a hardened grooved pin, to pin the head and rod together, after they are machined by you.

Each kit will have a drawbar head, as shown below:
Drawbar Head #601-96 1.06 Diameter X 11.100 Long
#601-99 .875 Diameter X 10.100 Long

Each kit will also have a drawbar rod, ONE of the following:
#602-96 .438 Dia X 22.000 Long (7/16-20, R-8)
#602-98 .500 Dia X 29.000 Long (1/2-12, T-30)
#602-99 .625 Dia X 30.700 Long (5/8-11, T-40)
#602M-99 M16 X 2.00 X 30.700 Long(T-40)

Each kit will also have a hardened grooved pin:
Grooved Pin #604-02 3/16 Diameter X 3/4 Long

MEASURING YOUR MACHINE

These parts will allow you to make a drawbar for the machine that you are fitting a Power Drawbar to. The next steps are necessary to get the information required to make the drawbar assembly for a correct fit.

1. Move the quill of the machine to fully retracted position. (If this is an NC/CNC machine, move the quill up to the normal Z-home position) Lock the quill in this position.
2. Scribe a line on the existing drawbar head, flush with the bearing retainer plate on the top of the machine head. **IT IS VERY IMPORTANT THAT THIS IS EXACTLY FLUSH!** (If your machine does NOT have a drawbar now, measure the distance from the top of the bearing retainer plate to the top of the spindle, where a drawbar would normally sit, using a depth mic or dial caliper)
3. Remove the drawbar from the machine, with the washer (if there is one). Remove the washer and save for later use.
4. Measure the distance from the scribed line on the drawbar head to the end of the drawbar head, where it was resting on the top of the spindle, or washer. **DO NOT INCLUDE THE THICKNESS OF THE WASHER IN THIS DIMENSION.** Record this length as the "A" dimension.
5. Next, measure the pilot diameter of the existing drawbar, and record this as the "C" diameter. Measure the length of the pilot diameter, and record it as the "B" dimension. (It is possible that your machine does not have a pilot diameter below the drawbar head, where the rod portion of the drawbar goes into the spindle. If this is the case, record the "B" length as zero.)
6. Finally, measure the length of the long end of the drawbar, from the end of the thread to the end of the drawbar head without the washer. Record this length as the "E".

DRAWBAR HEAD MACHINING

1. Calculate the overall length of the head by adding the following:
"A" Length: _____
+
"B" Length: _____
+
Spline Head: 1.0 (allows for .050 clearance)
=
TOTAL: _____ (Overall Length) +/- .010
2. Cut off the head length to dimension calculated above.
3. Drill, bore, and ream a hole in the end of the blank. Hold the depth to 1.81 minimum and hold the diameter to .4220+/- .0005 (for the R-8 and 30 Taper drawbars) or to .4990+/- .0005 (for the 40 Taper drawbars).
NOTE: If the overall head length is shorter than 3.250 please contact the factory.
4. Turn the pilot diameter to the same size as the existing drawbar "C" diameter, to length "B". There should be a .005/.015 radius in the corner.
5. Deburr all sharp corners/edges.

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