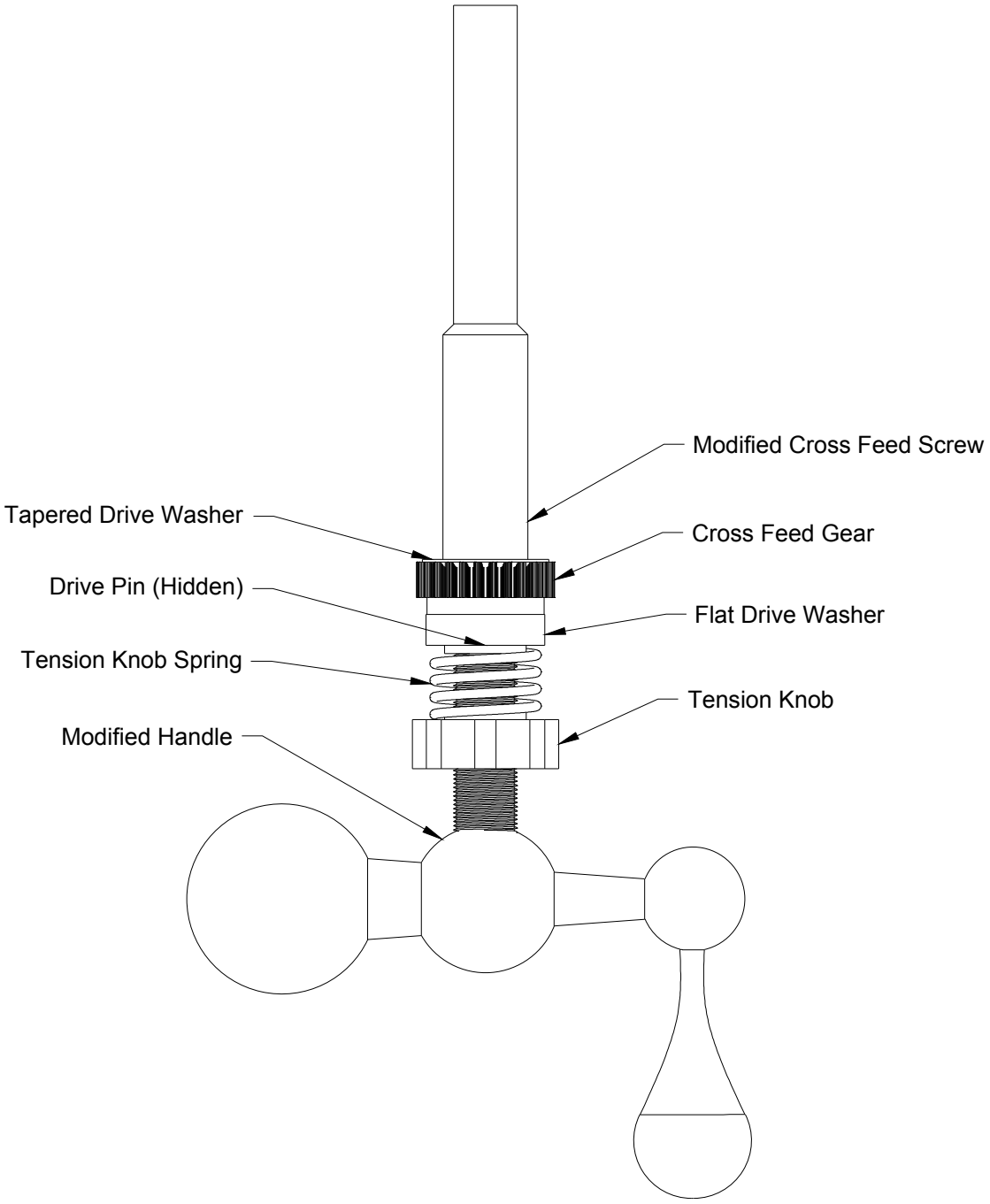


The Delta/Ammco Slip Clutch was designed to be an invaluable upgrade feature that allows the operator to set a stop along the Cross Feed Screw travel. Once the Table Stop is set the table will accurately stop at that position. Repetative cuts becomes a lot easier to do. It can also be used to set the maximum travel. This allows the operator the freedom to work on other tools and not be worried about an over run or crash.
Please Note: these drawings were made from a prototype. Use at own risk.

PROJECT

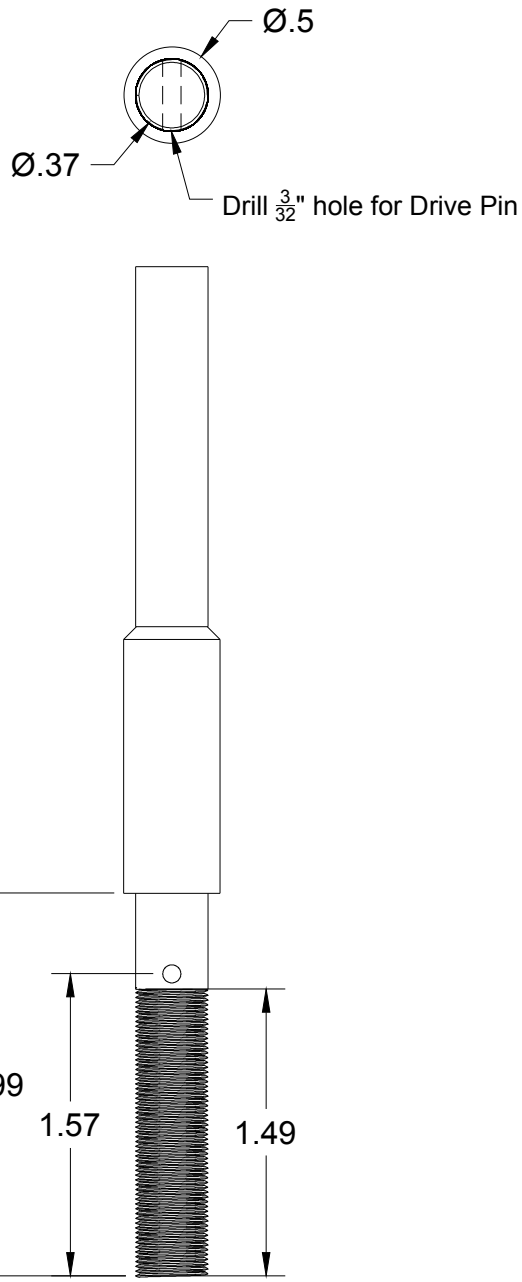
Delta/Ammco Slip Clutch

TITLE

Assembly Drawing

Designed by Ian Renshaw 2017

APPROVED	SIZE	CODE	DWG NO	REV
CHECKED	A			A
DRAWN Ian Renshaw 3/3/2018	SCALE 1:1	WEIGHT		SHEET 1/12



Construction Notes:

The existing Cross Feed Screw is machined down to $\frac{3}{8}$" plus 20 thou or so larger for cleaning up. Any holes or other imperfections are then welded. Once it has been welded it is placed back into the lathe and finished to the final size of $\frac{3}{8}$" with an approximate length of 2" from the end of the shaft. A $\frac{3}{8}$" x 24 tpi thread is cut for the Tension Knob for an approximate length of 1.5" from the end.

PROJECT

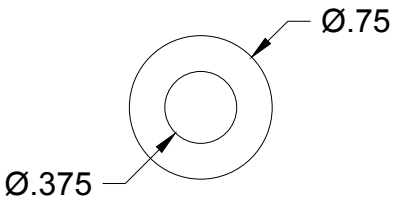
Delta/Ammco Slip Clutch

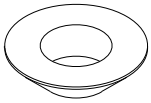
TITLE

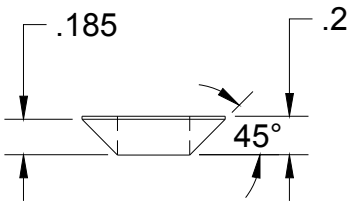
Modified Cross Feed Screw

Designed by Ian Renshaw 2017

APPROVED	SIZE	CODE	DWG NO	REV
CHECKED	A			A
DRAWN Ian Renshaw 3/3/2018	SCALE 1:1	WEIGHT		SHEET 2/12







Construction Notes:

The Tapered Drive Washer is made from tool steel and is fixed onto the Modified Cross Feed Screw using Loctite 620 or comparable product. The taper should be approximately 45 degrees.

PROJECT

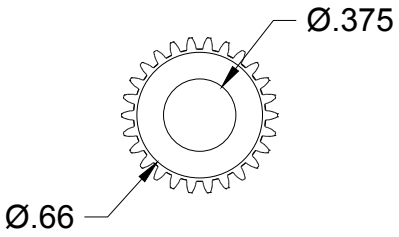
Delta/Ammco Slip Clutch

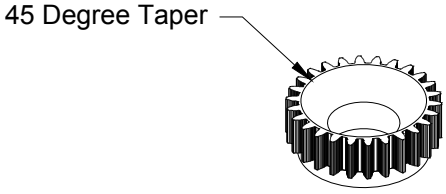
TITLE

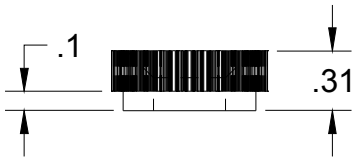
Tapered Drive Washer

Designed by Ian Renshaw 2017

APPROVED	SIZE	CODE	DWG NO	REV
CHECKED	A			A
DRAWN Ian Renshaw 3/3/2018	SCALE 1:1	WEIGHT		SHEET 3/12







Construction Notes:

The Cross Feed Gear is made of cast iron. The inside taper should match the Tapered Washer. You need to have a good fit. If necessary you can use lapping compound. When assembled the Drive Washer should stick out past the Cross Feed Gear by approximately 0.05". This is to prevent the Gear from riding against the Pawl Lever housing.

PROJECT

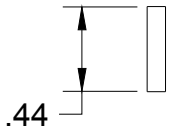
Delta/Ammco Slip Clutch

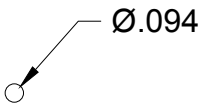
TITLE

Cross Feed Gear

Designed by Ian Renshaw 2017

APPROVED	SIZE	CODE	DWG NO	REV
CHECKED	A			A
DRAWN Ian Renshaw 3/3/2018	SCALE 1:1	WEIGHT		SHEET 4/12





Construction Notes:

The Drive Pin is made from $\frac{3}{32}$" mild steel and is a loose fit in the Modified Cross Feed Screw. This allows for easy assembly/disassembly.

PROJECT

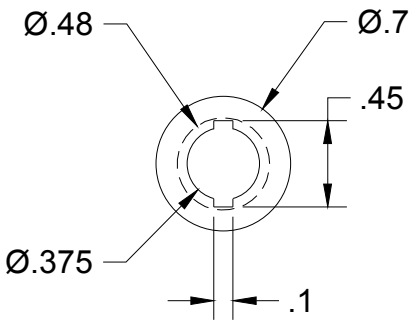
Delta/Ammco Slip Clutch

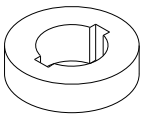
TITLE

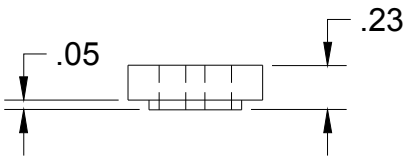
Drive Pin

Designed by Ian Renshaw 2017

APPROVED	SIZE	CODE	DWG NO	REV
CHECKED	A			A
DRAWN Ian Renshaw 3/3/2018	SCALE 1:1	WEIGHT		SHEET 5/12







Construction Notes:

The Flat Drive Washer is made from tool steel and should have a smooth flat surface to ride up against the Cross Feed Gear. When in use it slides along the Modified Cross Feed Screw but is prevented from turning by the Drive Pin. If allowed to turn it would tend to tighten the spring tension which could possibly break the Cross Feed Gear teeth when coming up to the Table Stop.

PROJECT

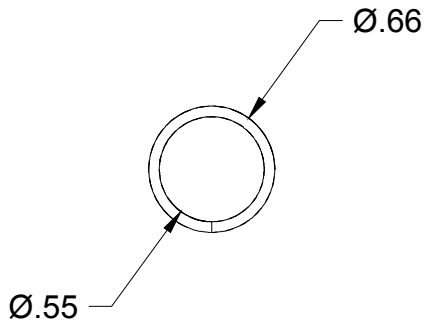
Delta/Ammco Slip Clutch

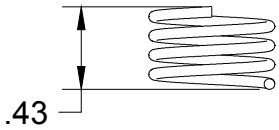
TITLE

Flat Drive Washer

Designed by Ian Renshaw 2017

APPROVED	SIZE	CODE	DWG NO	REV
CHECKED	A			A
DRAWN Ian Renshaw 3/4/2018	SCALE 1:1	WEIGHT		SHEET 6/12





Construction Notes:

The Tension Knob Spring has 3 $\frac{1}{2}$ active coils and is made from .056" piano wire. This size proved to be a bit weak on the prototype. You may want to use a larger diameter wire or use Disc Springs which can be stacked to give a greater force in a confined space.

PROJECT

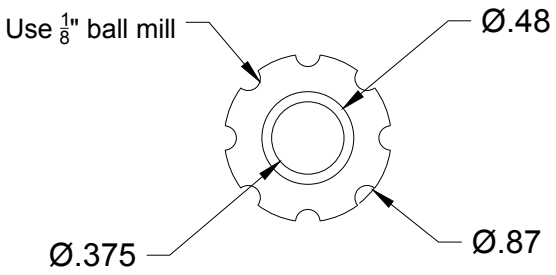
Delta/Ammco Slip Clutch

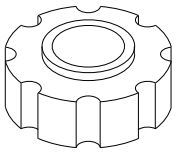
TITLE

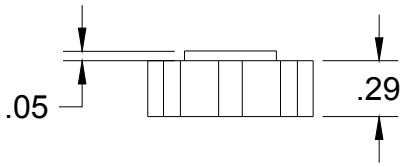
Tension Knob Spring

Designed by Ian Renshaw 2017

APPROVED	SIZE	CODE	DWG NO	REV
CHECKED	A			A
DRAWN Ian Renshaw 3/4/2018	SCALE 1:1	WEIGHT		SHEET 7/12







Construction Notes:

The Tension Knob is made from mild steel and is used to increase or decrease the force of the Tension Knob Spring against the Drive Washers. A knurl helps to grip the knob while turning. The knurl can be made by simply using a 1/8" ball endmill or a knurling tool as done on the prototype.

PROJECT

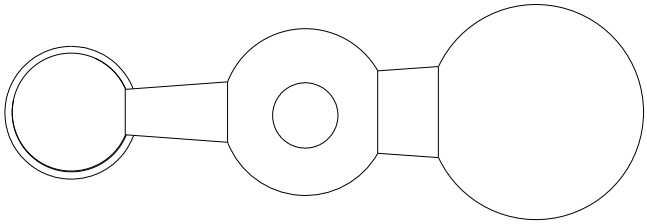
Delta/Ammco Slip Clutch

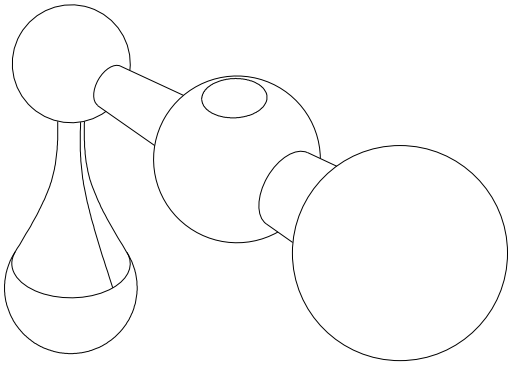
TITLE

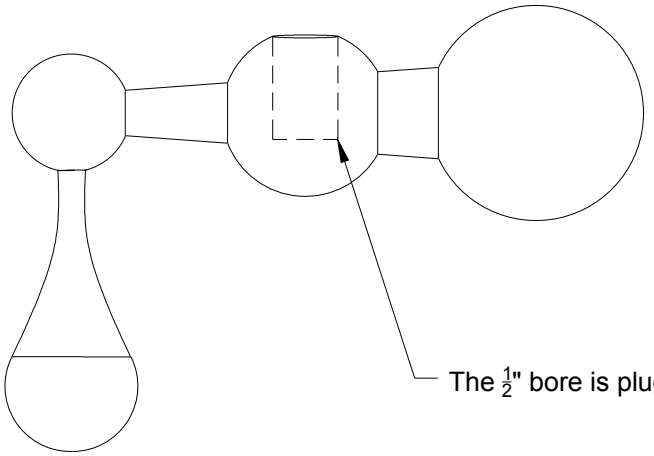
Tension Knob

Designed by Ian Renshaw 2017

APPROVED	SIZE	CODE	DWG NO	REV
CHECKED	A			A
DRAWN Ian Renshaw 3/4/2018	SCALE 1:1	WEIGHT		SHEET 8/12







Construction Notes:

The Handle is fixed to the Cross Feed Screw with a tapered pin. Once removed, weld and smooth over the holes. A $\frac{1}{2}$" diameter steel plug is made to fit and is bored and threaded $\frac{3}{8}$" x 24 tpi. Loctite 620 is used to permanently secure it inside the $\frac{1}{2}$" Handle bore. When assembling the Modified Handle back onto the Modified Cross Feed Screw, secure it with medium strength Loctite. This will allow easy disassembly should the need arise. Alternatively a jamb nut can be used.

PROJECT

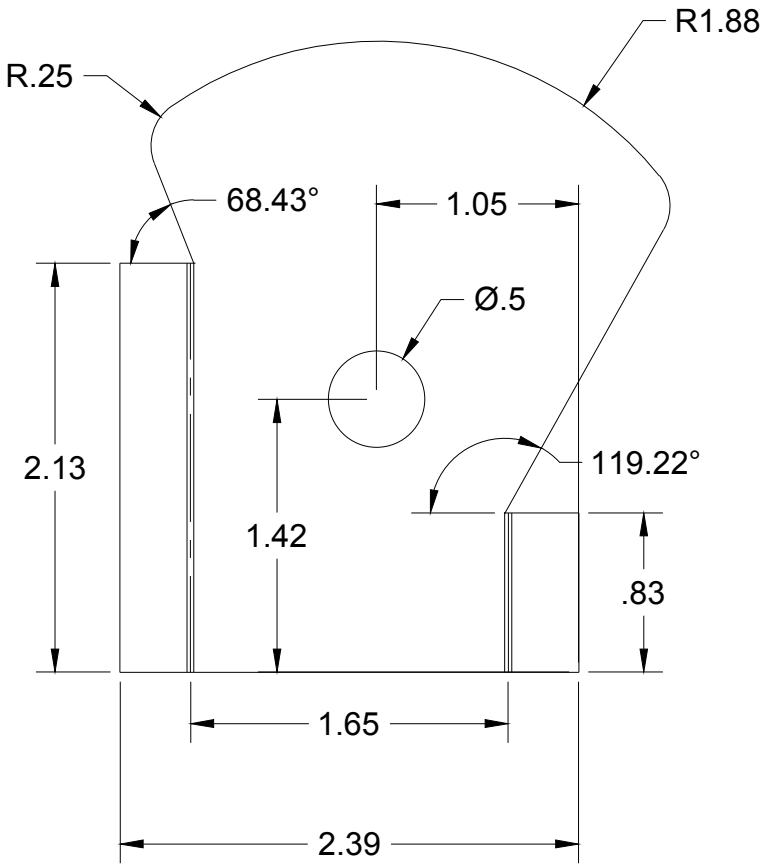
Delta/Ammco Slip Clutch

TITLE

Modified Handle

Designed by Ian Renshaw 2017

APPROVED	SIZE	CODE	DWG NO	REV
CHECKED	A			A
DRAWN Ian Renshaw 3/4/2018	SCALE 1:1	WEIGHT		SHEET 9/12



Construction Notes:

The Pawl Lever Arm Guard was designed to prevent your fingers from being pinched between the Pawl Lever Arm and the Table Stop. The best way to machine it would be to print and stick it onto the 16 gauge sheet metal. Use the printed lines as a guide for cutting. After it is cut, smooth the edges and bend on the dashed lines as shown to suit your shaper. I bent mine a little over 90 degrees so that it stays in place while you're reassembling.

PROJECT

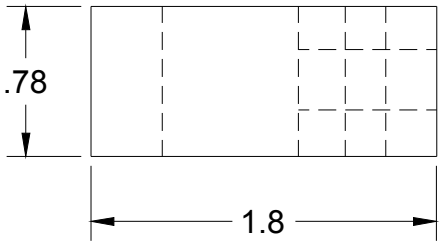
Delta/Ammco Slip Clutch

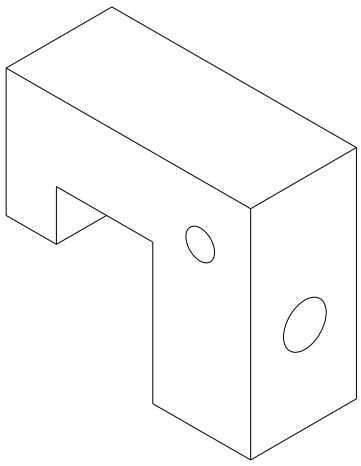
TITLE

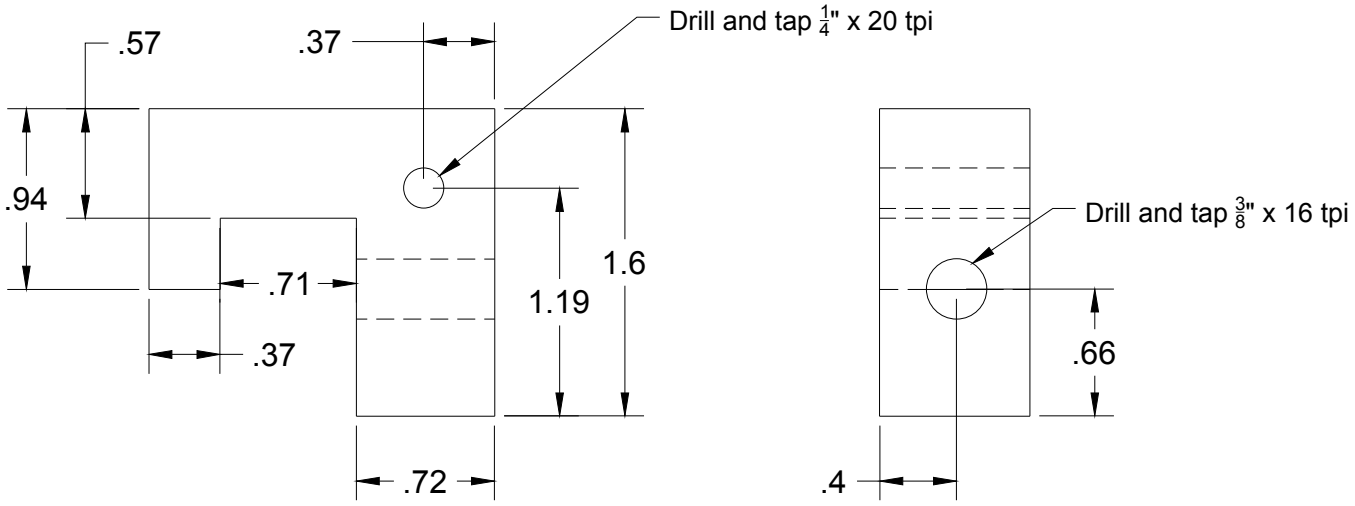
Pawl Lever Arm Guard

Designed by Ian Renshaw 2017

APPROVED	SIZE	CODE	DWG NO	REV
CHECKED	A			A
DRAWN Ian Renshaw 3/2/2018	SCALE 1:1	WEIGHT		SHEET 10/12







Construction Notes:

The Table Stop Clamp is made from 6061 aluminum. Use a $\frac{3}{8}$" Allen bolt with the Table Stop Washer on the back to clamp against the Crossrail. A long $\frac{1}{4}$" bolt or threaded rod is used with a nut to set a hard stop point.

PROJECT

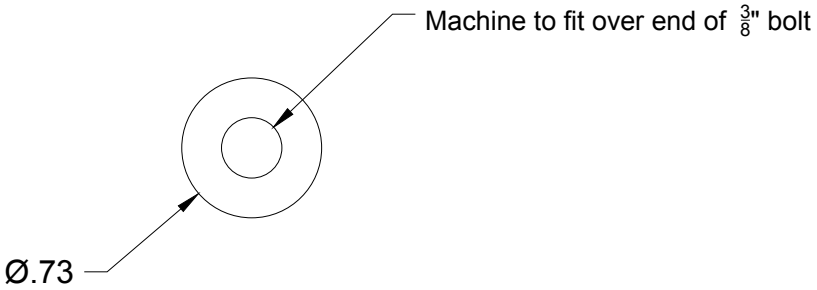
Delta/Ammco Slip Clutch

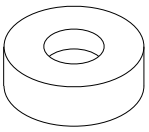
TITLE

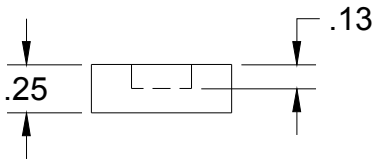
Table Stop Clamp

Designed by Ian Renshaw 2017

APPROVED	SIZE	CODE	DWG NO	REV
CHECKED	A			A
DRAWN Ian Renshaw 3/4/2018	SCALE 1:1	WEIGHT		SHEET 11/12







Construction Notes:

The Table Stop Washer is made out of 6061 aluminum and is placed between the large 3/8" Allen bolt and the Crossrail so that the rail is clamped between the Table Stop Washer and the Table Stop Clamp (both aluminum) preventing any damage to the rail. The 1/8" deep hole in the washer fits over the end of the bolt so that it stays in place while moving the Table Stop into location on the rail.

PROJECT

Delta/Ammco Slip Clutch

TITLE

Table Stop Washer

Designed by Ian Renshaw 2017

APPROVED	SIZE	CODE	DWG NO	REV
CHECKED	A			A
DRAWN Ian Renshaw 3/4/2018	SCALE 1:1	WEIGHT		SHEET 12/12