



INSTALLING THE RECEIVING MANIFOLD & COOLANT SYSTEM FOR AUTOMATIC CHANGING OF COOLANT-FED TOOLS

It is necessary to have the receiving block, tool holder and coolant gland assembly before the start of installation. The make and design of your particular machine will indicate which three modes of receiving block installations will best serve your operation. The George Whalley Company attempts to maintain records on specifications for machine tools. We cannot be responsible for changes or improvements to your particular machine tool and therefore must ask that you carefully review all specifications which we may provide. Use the following suggested procedure and double check each step of the installation.

Note: These instructions are to be followed after modification of Receiving Manifold Blank have been made to suit your machine.

1. Orient the spindle to the tool change position.
2. Load the automatic tool holder and gland assembly to the spindle. Observe the area where the receiving manifold is to be located. If there are any bolts, pins, or fasteners in this area, remove them at this time. Temporarily mark the location where the Receiving Manifold is to be mounted.
3. Remove the automatic tool holder assembly and receiving manifold from the machine. Thoroughly clean the manifold locating surface and the marked area to contain the manifold. Use lacquer thinner or solvent to clean oil or dirt from the mating surfaces.
4. Apply a generous coating of any brand of super type glue to the receiving manifold and mating surface to contain the manifold. Re-check spindle orient location at this time. Load the gland assembly to the machine along with the receiving manifold. The spring pressure of the gland assembly will hold the receiving manifold in place. Allow a proper time for the glue to set and adhere.
5. Remove the gland assembly from the spindle.
6. Use the existing mounting holes in the receiving manifold as a template to locate the matching holes on the machine member. Drill and tap holes as required. Drill dowel pin holes.
7. Re-assemble the coolant gland to the machine. Do not securely tighten the mounting bolts.
8. Re-load the gland assembly to the spindle allowing the receiving manifold and mating machine member to each find its ideal location. Secure all bolts. Ream the dowel pin holes and install the dowel pins.
See pages 80-85 for Receiving Manifold mounting information and dimensions.

AUTO TOOL
CHANGE : ATC

TWO PIECE CONSTRUCTION TOOLHOLDERS AS SEEN ON PAGES 92, 93, AND 101.

The Two Piece Construction Holder with matching coolant gland assembly (shown on pages 92, 93, and 101) is designed to adapt large shank tooling to The George Whalley Company automatic tool change system. The system consists of the following three units:

1. **Shank Assembly** -The shank assembly has a #50 Cat. V-Flange taper with a #40 internal taper and two drive keys.
2. **Head Assembly** -The head assembly has a #40 taper shank and two drive slots. Straight bore or collet style front ends are available.
3. **Coolant Gland** - The coolant gland is located on the head assembly and automatically connects and disconnects from the receiving manifold which is mounted in proximity to the machine spindle.

The head and shank assemblies are located by drive and slot keys. The head and shank are fastened together by a draw screw. Concentricity is the same as one piece holders, approximately 0.0005" at the toolholder face.



BRIEF CHECK LIST FOR START-UP

The following is a useful outline of procedures for installation of coolant-fed automatic tool change equipment in your machine:

1. Check to see that you have a receiving manifold properly installed on your machine and connected to its coolant system.
2. If you have a face seal adjustable coolant pin make sure it is adjusted for appropriate length to release the Activating Pin. Be sure that the set screw on top pin is locked.
3. Adjust orientation ring on toolholder to suit manifold location.
4. Tighten orientation ring screws in position, place coolant holder and gland in tool carousel and run slowly through tool change cycle, making sure of clearance at all points.
5. Follow Break In and Operating Recommendations (listed below).
6. After completion of break in procedure, you may bring the tool holder up to speed.

CAUTION! Should gland show signs of overheating, stop operations and consult detailed operating instructions.

BREAK IN AND OPERATING RECOMMENDATIONS FOR AUTOMATIC AND MANUAL TOOL CHANGE COOLANT GLANDS

In order to assure proper lubrication, even wear, and proper seating, high RPM glands should be broken in at 100 RPM for 3 minutes with coolant introduced at a pressure and volume between 100 PSI and 500 PSI to prevent overloading seals. Repeat procedure at 500 RPM for 3 minutes, and again at 1000 RPM. After break in procedure is complete, units may be run at pressure between 100 PSI and 1000 PSI.

For maximum life and performance of these coolant glands and seals the following conditions are recommended:

1. Coolant filtration: 30 to 50 micron minimum; 5 micron optimum
2. Proper type & viscosity of coolant: preferably a good water soluble synthetic with good lubrication and heat dissipation under pressure.
3. Coolant pressure: minimum of 100 lbs. coolant pressure at high R.P.M.'s (1800 SFM or more based on I.D. dimension of coolant gland or O.D. bearing diameter of tool holder). Maximum pressure of 1000 PSI
4. Coolant volume must be sufficient to properly lubricate cutting tool as recommended by its manufacturer. The combination of volume and pressure can not exceed the coolant orifice delivery capability of your tool or premature gland failure may result due to excessive heat build up.

CAUTION! All coolant glands require coolant at all speeds.

CAUTION! Operating RPM up to 1800 SFM based on the I.D. size of coolant gland or O.D. bearing diameter of toolholder.