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SERVICE INFORMATION/MX-250

The following tips and modifications are recommended to increase performance and reliability of the MX-250.

DISC BRAKE

For maximum braking performance from the rear disc brake, these procedures should be followed.

1. The caliper assembly must be perfectly centered on the brake disc for maximum braking action. If the caliper requires centering, file away excess weld material from caliper mounting bracket locating blocks (part No. 41968-75) as necessary to center caliper on disc when disc is stationary.
2. Carefully bleed the hydraulic system to expell all air from system as specified on page 16 of the MX-250 Service Manual (part No. 99488-75R).
3. For maximum brake pedal leverage and corresponding brake power, install the brake pedal link rod in the lowest hole position on the brake pedal.

If additional braking power is desired, the master cylinder may be modified to use an actuating cam that provides better mechanical advantage as follows:

1. Remove the cotter pin that secures the brake link rod to the pedal and disconnect the rod from pedal.
2. Remove the brake hydraulic line from the master cylinder and brake caliper and discard line.
3. Disconnect operating cam from master cylinder.
4. Remove bolts that secure master cylinder to the frame and turn master cylinder around 180° and remount to frame.
5. To make a brake cam that provides better mechanical advantage, use the brake cam template in Figure 1 to make a new master cylinder cam from material of equal strength and hardness as original cam. Or, the standard cam can be modified to provide nearly as good a mechanical advantage as the new cam by drilling a 3/16" dia. hole in the cam at the location shown. A carbide drill should be used because the cam is hardened.
6. Install a 1/8-27NPTF 90° elbow in the master cylinder outlet and install a 17" hydraulic brake hose from the elbow to the brake caliper.
7. Use a 1/4" diameter metal rod to make a new brake link rod 8-3/4" long with the same bend and eye as original brake rod. Attach rod to master cylinder operating cam and install rod in desired hole on brake pedal with swivel block and cotter pin.

8. Bleed and adjust master cylinder as specified on page 16 of the MX-250 Service Manual.
9. Test brake action and make final adjustments.

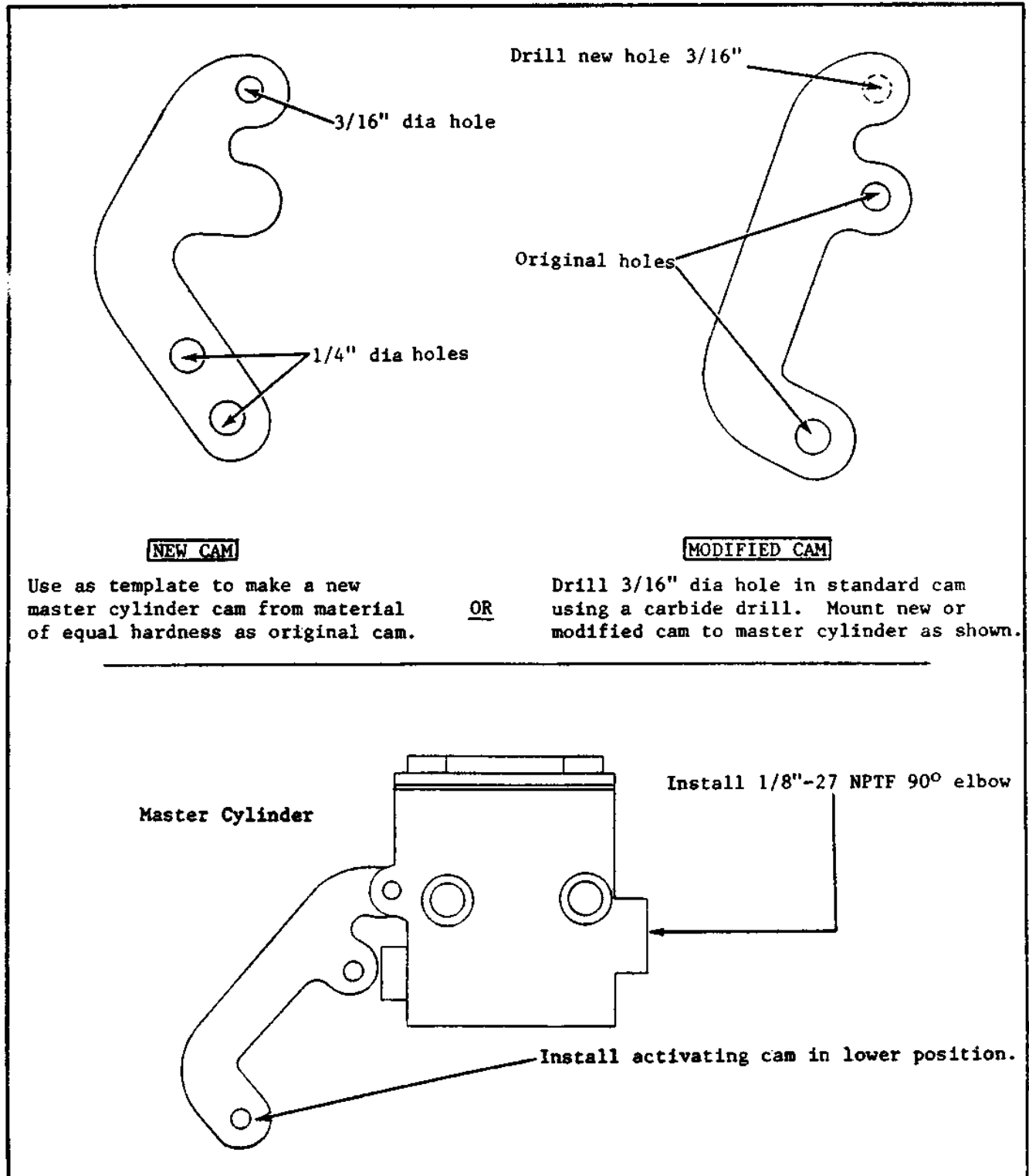


Figure 1

FRAME MODIFICATIONS

1. To improve the reliability of the shock mounts, the mount gussets should be reinforced by welding a .075" thick strip of metal between the mount gussets as shown in Figure 2 so the mounts are completely boxed with metal.
2. To strengthen foot peg mountings, the foot peg brackets should be mounted with the side plates against the frame tubes. Remove peg brackets and file the mounting bosses from frame tube as necessary to allow brackets to be remounted snugly against frame tube.

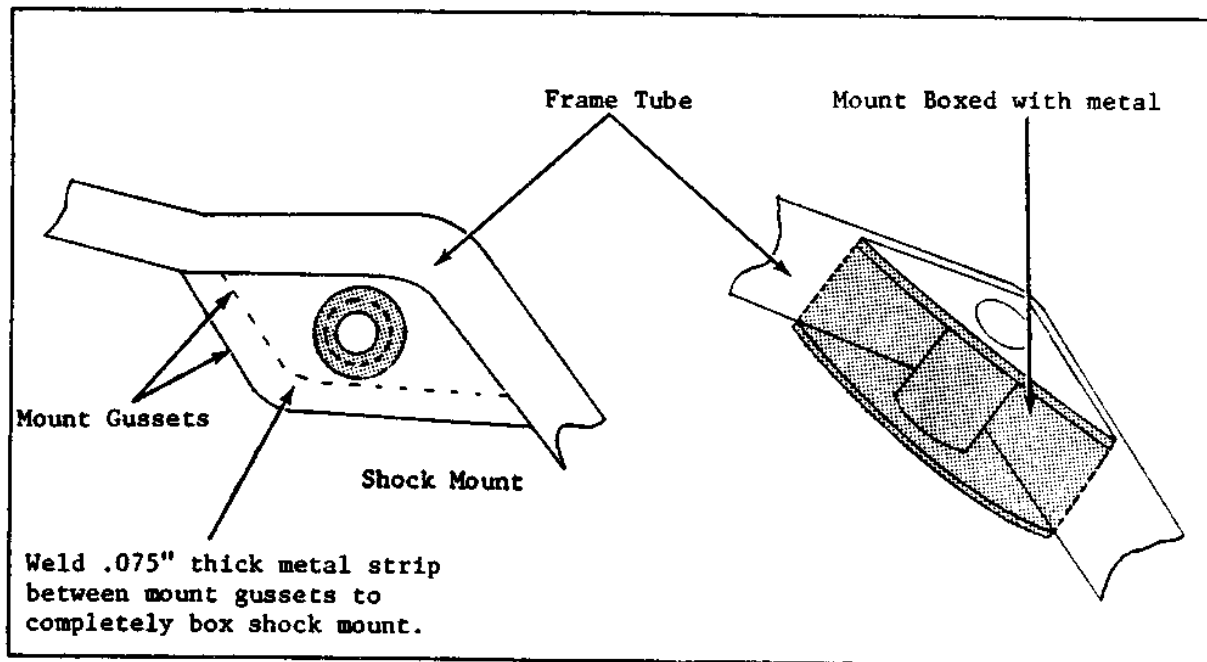


Figure 2.

AIR FILTER BOX

To prevent breakage of the air box and lower portion of the rear fender, mount the air box and lower fender only to frame with ty-wraps instead of using the standard rigid mounts which contribute to breakage.

ENGINE

To achieve maximum horsepower without altering the engine's basic power characteristics, a Honda CR-250 expansion chamber or pipe with similar breathing characteristics should be installed. To use the new pipe, the following modifications are required.

1. To mount the new expansion chamber to the MX-250, the header section of the pipe must be cut at the approximate locations shown in Figure 3 and the pipe sections rotated as necessary until the pipe will mount properly to the exhaust port. When the pipe is properly positioned, index the pipe and braze it back together in this position. The chamber must also be cut toward the rear as shown and the pipe rotated until it fits properly on the frame similar to the standard pipe.

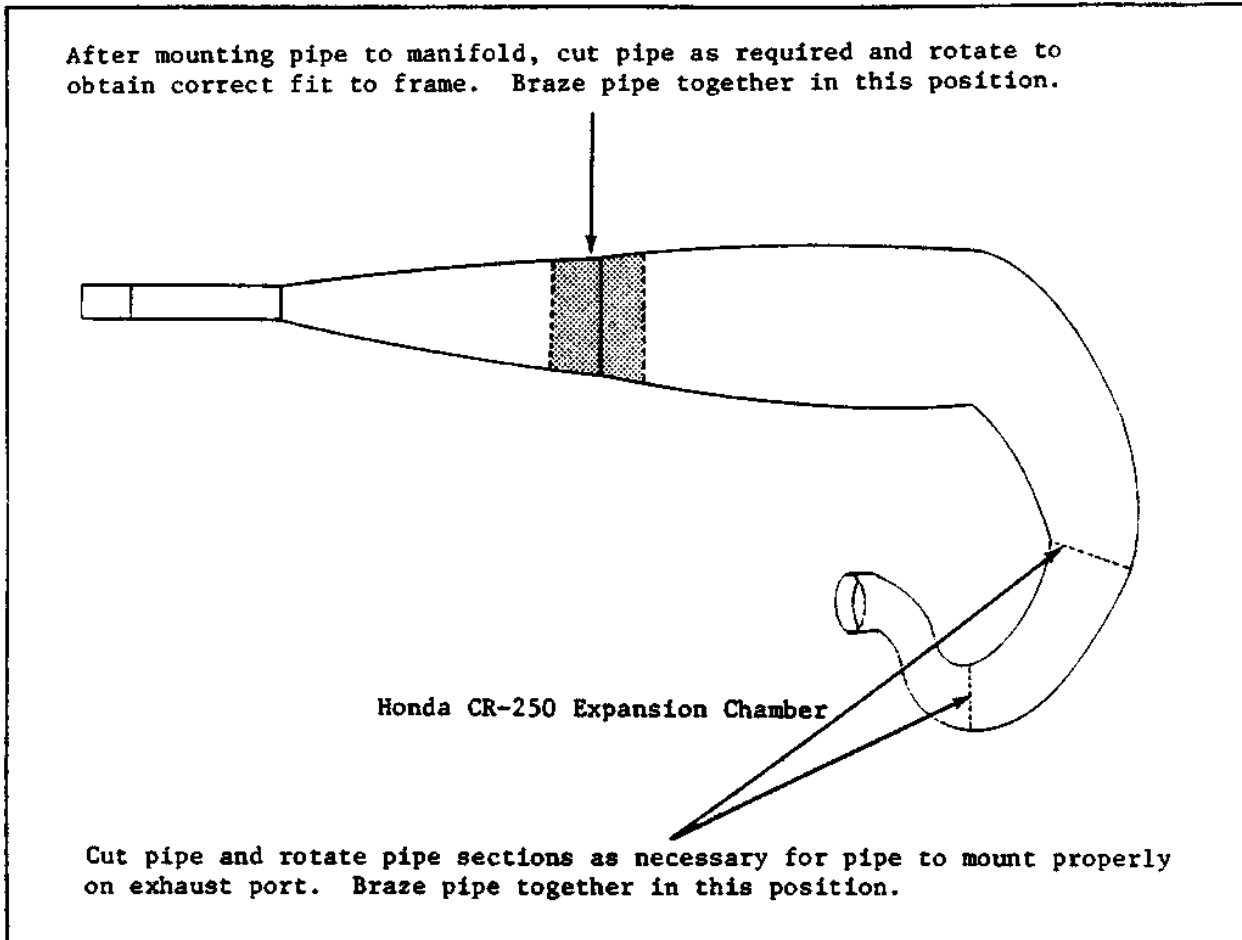


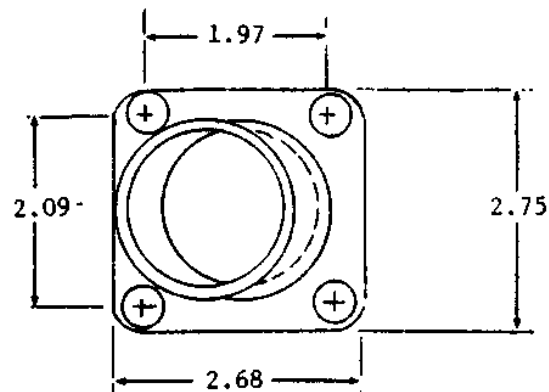
Figure 3

2. To accommodate the new expansion chamber, the exhaust port must be widened to 50mm and a new exhaust manifold made as shown in Figure 4. When widening the exhaust port, the step inside the port must not be altered. Also, the upper and lower port areas must not be modified since this will alter port timing. Remove only material from the port edges. Proper port timing is as follows:

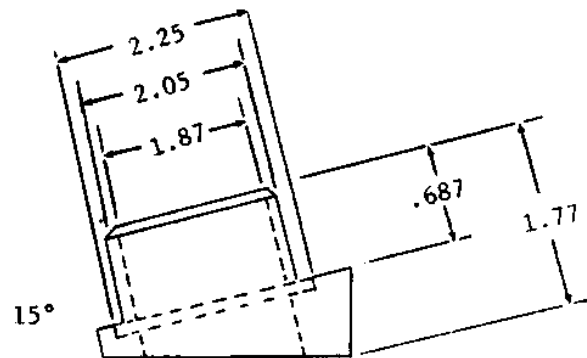
Exhaust duration 194° - 196°
 Transfer duration 134° - 136°
 Intake duration 174° - 176°

3. To prevent catching the piston rings in the widened exhaust port, the piston ring locating pins must be relocated to the intake side of the piston. File out the original pins with a jewelers file. Use a #53 (.060) drill, to make new locating holes to a depth of .375" midway between the transfer and intake locations. Make new locating pins from .062 inch drill stock and press into holes. The pin should be perfectly centered in the ring land and protrude approximately .060 from the inside surface of the ring land.

IMPORTANT! Pins must fit tightly in holes.

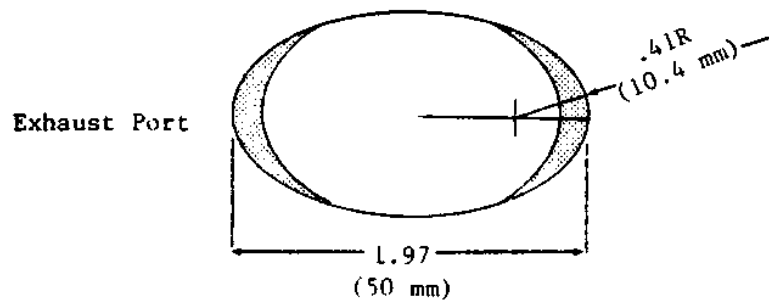


NOTE: Dimensions shown in inches.



Exhaust Manifold

Fabricate new steel manifold similar to standard manifold using dimensions given.



Enlarge exhaust port to 50 mm. — Remove material only from port sides as shown.

Figure 4.

4. The final modification to complement the new pipe for maximum horsepower is the installation of a 36mm Mikuni carburetor.

Stock Jetting

Air jet 1.0
Pilot jet 35
Main jet 300
Needle jet 159P4
Needle 6F5 - second groove from bottom
Slide 2.0

Note: Fine tuning for local conditions is required. Always start rich.

BOOST PORT

A further modification to maximize engine performance to the same specifications as factory team engines is the addition of a boost port to the intake side of the piston and its mating channel in the cylinder wall as shown in Figure 5. To use this boost port, the lower piston ring must be removed and only the top ring used. A lubricating port must also be drilled in the piston as shown.

To properly locate the boost port on the piston the following procedure should be used. Position the piston at Bottom Dead Center in the cylinder wall and remove carburetor from intake manifold. With piston at BDC, looking through the intake manifold, scribe a line on the piston against the top edge of the manifold. Remove piston and locate boost port as shown in drawing, properly dimensioned .100 inches above the scribed line.

With the addition of the boost port it will be necessary to check the cylinder and piston assembly every five hours of running time, and check the crankshaft for trueness and rod side clearance every 10 hours.

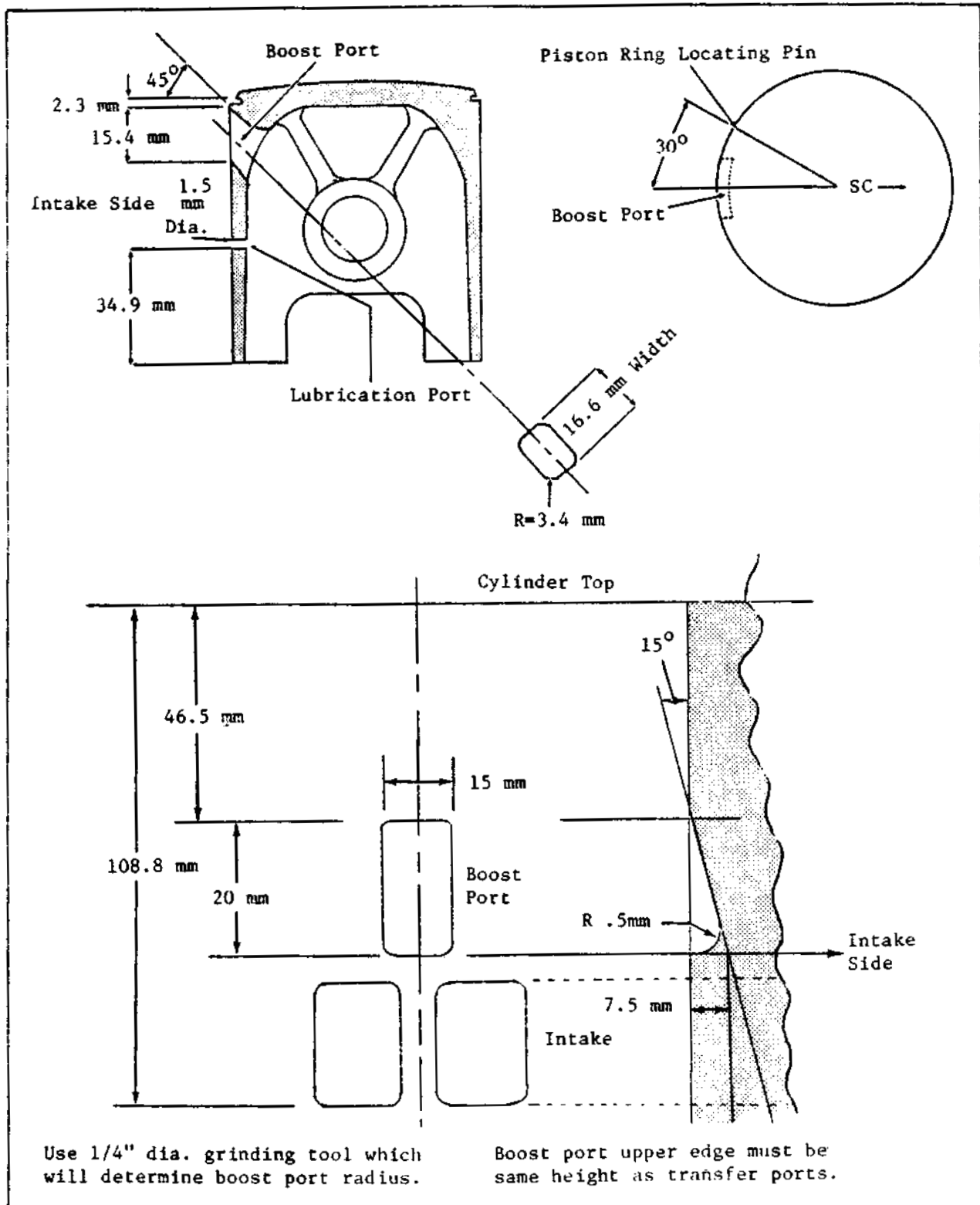


Figure 5 Make boost port using the dimensions shown