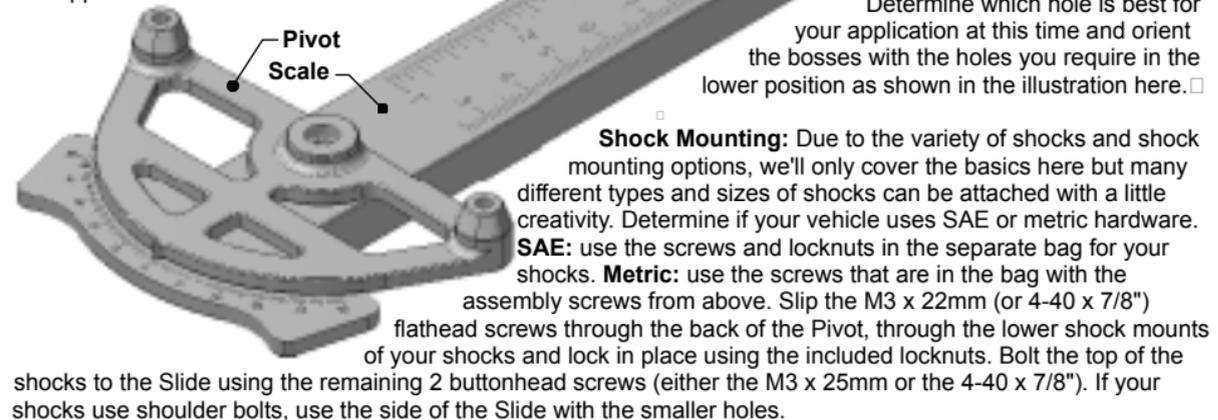


□

#70972 - Shock Duplicator

What's Included: 1 - Scale, 1 - Pivot, 1 - Slide, 1 - Slide Retainer, 2 - 3x6x2.5mm Bearings, 1 - M3 x 16mm flathead screw, 4 - M3 x 16mm buttonhead screws, 2 - M3 x 22mm flathead screws, 2 - M3 x 25mm buttonhead screws, 9 - 3mm locknuts, 2 - 4-40 x 7/8" flathead screws, 2 - 4-40 x 7/8" buttonhead screws & 4 - 4-40 locknuts.

Gauge Assembly: Press both 3x6x2.5mm bearings into the top and bottom of the Pivot. From the bottom, attach the Pivot to the Scale using the included M3 x 16mm flathead screw and 1 - 3mm locknut. Attach the Slide to the Slide Retainer using the 4 - M3 x 16mm buttonhead screws and 4 - 3mm locknuts. Start with the orientation of the Slide as shown in the illustration here. Note: The 4 Slide holes look identical but two of the holes are clearance holes (3mm or 4-40) while the opposite are for a 3mm thread.



Shock Mounting: Due to the variety of shocks and shock mounting options, we'll only cover the basics here but many different types and sizes of shocks can be attached with a little creativity. Determine if your vehicle uses SAE or metric hardware.

SAE: use the screws and locknuts in the separate bag for your shocks. **Metric:** use the screws that are in the bag with the assembly screws from above. Slip the M3 x 22mm (or 4-40 x 7/8") flathead screws through the back of the Pivot, through the lower shock mounts of your shocks and lock in place using the included locknuts. Bolt the top of the shocks to the Slide using the remaining 2 buttonhead screws (either the M3 x 25mm or the 4-40 x 7/8"). If your shocks use shoulder bolts, use the side of the Slide with the smaller holes.

1) Shock Length & Length Matching (Springs Off): Slowly pull the slide away from the Pivot

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until it stops. If both shocks are equal in length as shown in the illustration to the right, the gauge position will indicate the length of your shocks (shown here as just under 4" or just over 10.1cm). If the angle indicator at the bottom does not read 0°, your shocks are uneven and need to be adjusted before an accurate length will display.

2) Shock Oil Level (Springs Off): Press the Slide down towards the Pivot until both shocks fully compress. Any deviation of the Pivot will show an unbalanced pairing. This most likely results from too much shock oil in the "longer" shock or not enough in the "short". Re-bleed the "longer" shock or fill the "short", retest and repeat until the Pivot shows little to no deviation. □

3) Internal Resistance (Springs Off): Stiction of the o-ring seals and piston can be checked by moving the Slide up and down while watching the Pivot. If the Pivot doesn't move, or moves slightly, your shocks are in balance. If the Pivot deflection is significant, something is off within your shocks (slight movement is expected since it is extremely difficult to achieve perfect balance). Check your oil weights, oil fill levels and o-ring seals for proper seating and compression, etc.□

4) Spring Rate Equality and Preload (Springs On): With the springs on, preload set and the length of the shocks already set correctly (from #1 above), let the gauge rest (no pressure on the Slide) and check the Pivot reading. If it reads anything other than 0°, adjust the preload until the gauge reads 0°. This will set a perfect pair of preloaded shocks. Now compress the shocks and watch the Pivot. If it moves dramatically, the most likely cause is the springs do not match and will need to be replaced.

5) Oval Racers: This tool is primarily used to balance shocks equally. However, you too can use it to set imbalanced shocks accurately. Start with a pair of shocks that works for you as a baseline. Mount them to the gauge and record the angle of deflection. Now make any changes and check to see how it affects the deflection angle. Test the new settings and record your results. A few test sessions and you'll get a good feel for the effects of your bench tests versus actual results on the track.

