

# DSXSV9 9G Turnout or motion control servo, with mount bracket and installation hardware

## Features:

- Mini 9G servo for turnout control, compatible with Digitrax DS78V decoder.
- Includes compact under layout mount bracket, allowing ~1.8" mount depth.
- Includes both 0.6mm and 0.8mm z-bend formed actuator drive-wires.
- Adjustable; slew range with horn arm holes, and angle offset on shaft spline.
- Includes 5/16" mount screws, actuator horns and servo hardware.

## Parts List

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|---------------------|--------------------------------------|
| 1 DSXSV9 9G servo   | 2 z-bend actuator drive-wire sizes   |
| 1 Instruction Sheet | 1 9G Mount, screws and horn arm pack |

## 1.0 Servo Mount Assembly

1. Place the DSXSV9 servo *without horn arm* on the rear side of the mount bracket with the wires away from the mount top, as shown in figure 1 . Use two larger head 1/4" long screws from horn arm hardware bag to attach servo to mount.
2. Drive the DSXSV9 to its **center** position by e.g. plugging into a powered DS78V in Adjustment mode *centering* state. See DS78V manual section 2.0.
3. Poke through the z-bend end of e.g. thin 0.6mm drive-wire into the outer hole of the short horn arm, then place the wire free tip through the center pivot hole in the plastic mount base, as shown in figure 1.
4. To mechanically center; align horn arm end pointing at the servo cable on the centerline, then gently press horn center onto the servo shaft spline. Use the DS78V to then confirm that the DSXSV9 now has almost symmetric Thrown (clockwise or CW) and Closed (CCW) angles from centerline. In e.g. the Thrown position shown, use the small 5/32" long screw to lock the horn arm center down to the shaft with this approximate mechanical center position.
5. Drive the servo back to centered position, so it is aligned and can be unplugged and later installed on the layout with drive-wire centered under the turnout throw-bar drive hole, with aid of the base-template. Do not drive the horn arm manually, as this will damage gears. For dry indoor use only.

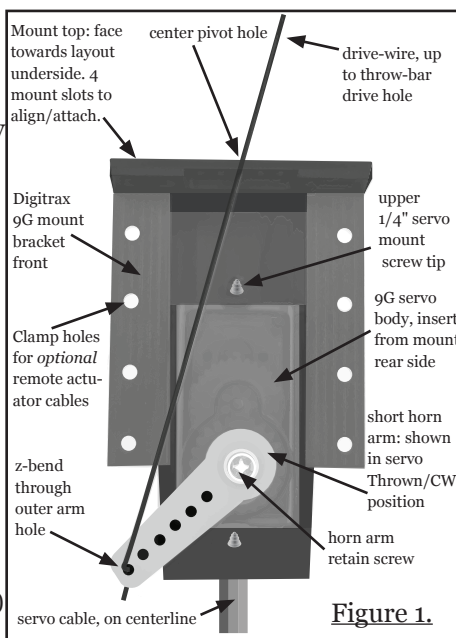


Figure 1.

## 2.0 DSXSV9 suggested Layout Installation

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1. The servo arm moves the drive-wire through the turnout throw-bar hole using an approx 1/2" access clearance hole or slot through the layout base material, centered under the throw-bar drive hole. Use base-template below.
2. Pass the free end of the drive-wire through the access hole and then through the throw-bar center hole. There will be excess drive-wire tip to trim later.
3. Align the servo mount so that the drive-wire will move in the throw-bar actuation direction. Set mount orientation so Thrown/ Clockwise horn rotation will drive the throw-bar to the diverging or Thrown turnout direction .
4. Use two 5/16" long mount screws to hold the unit when in the correct position. There are mount slots for up to 4 mounting screws and the slots allow some fine position and orientation adjustments using screw pairs.
5. Connect the servo to a DS78V and drive to Thrown and Closed positions and observe the turnout throw-bar moves as needed.
6. In the Thrown or Closed position, using eye protection, carefully trim the drive-wire tip just below the rail tops, so as not to catch on any rolling stock.
7. With the drive-wire using the outermost horn arm hole, there will be about +/- 0.25" of travel at a throw-bar offset of about 1" from the servo mount. This will be fine for most HO and N scale turnouts and layout base material depths. Any excess drive angle using the 0.6mm wire will provide compliance and some spring tension on the rails. The heavier 0.8mm wire will provide even more spring pressure, and not be required in most cases.
8. Always ensure at extreme T/C angles that the *horn arm* does not bind to make servo jam ON. This may damage servo and is not covered under warranty.

These steps are some of many possible methods to install the DSXSV9, and user skills will allow many variations of these broad steps.

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## 3.0 Warranty & Repair

Digitrax gives a 90 day Warranty against material and manufacturing defects on the DSXSV9. Visit [www.digitrax.com](http://www.digitrax.com) for instructions for returning items for repair. **Please return warranty items directly to Digitrax - DO NOT** return items to place of purchase.

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