

How To

Choose A Single Spindle Fixtured Screwdriving Head

Single spindle screwdriving heads are used in a wide variety of automated applications to install fasteners into many different parts. Screwdriving heads incorporate two strokes; the stroke to part, and the drive stroke. The stroke to part is used to advance the screw jaws up to the part. The drive stroke drives the screw to proper torque or depth (as required). Here are some key questions to consider when specifying a fixtured drive head, and how the Carlson X-MOD meets these requirements:

What is the drive stroke?

The DRIVE STROKE module is a pneumatically powered slide that actuates the tool and the drive spindle. This module also mounts the screw jaw tooling.

What is "stroke to part?"

The TRANSPORT STROKE module is used to move the drive stroke and screw jaws to the parts to be fastened. Consider allowing enough distance to clear moving parts on indexers or conveyors, or to allow loading into and out of nests and fixtures.

Will the part be marred by the screw jaws?

The screw jaws can be set to stop just above the parts to be fastened, thus avoiding any chance of damaging the part surface.

What is the torque requirement?

The X-MOD has a torque capacity of up to 200 in. lbs.

What about 'drive-to depth' application?

The Drive stroke has its own limit switch, so screw depth control is available.

What if my drive heights vary somewhat?

Active depth is available when the reference surface varies in height. This allows the screw to be driven properly even if there are variations in the part.

Is there a width restriction?

The X-MOD is only 40 mm (1.57") wide, allowing it to fit into tight spaces.

Are there close centers?

Two X-MOD units can mount side by side on 1.59" centers.

Is there a length restriction?

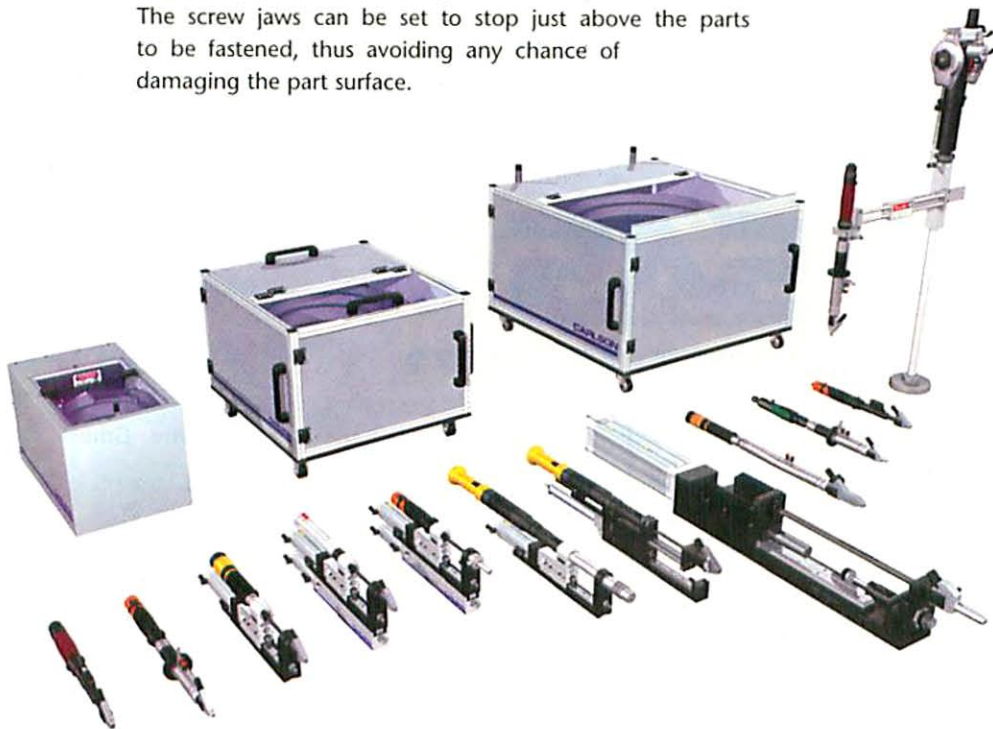
The standard dual stroke X-MOD has 75 mm (3") of stroke to part, and 100 mm (4") of stroke through jaws in a slide length of less than 406 mm (16"). It's a perfect choice for under table applications, due to the short length.

Is there a weight requirement?

The X-MOD drive stroke weighs 4.3#s less tool and screw jaws, making it ideal for robotic applications. The dual stroke X-MOD weighs just under 8#s less tool and screw jaws.

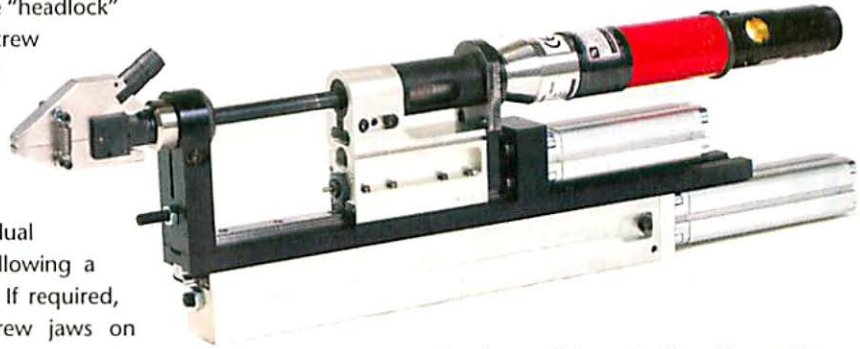
Is there a specific type or brand of tool required?

A wide variety of pneumatic or DC electric torque tools can be accommodated on the X-MOD. The maximum diameter tool that will fit is 57 mm (2.25").



What is the drive orientation?

Often an automated screwdriving operation must be performed in an inverted position. The X-MOD has a unique "headlock" option that stops the spindle behind the screw head, effectively locking it in place until it is driven without the need to keep the feed air on, or the use of a latch.

**Can the two strokes be operated independently?**

Both strokes of the dual stroke X-MOD operate independently, allowing a wide range of programmable sequences. If required, screws can be "purged" from the screw jaws on demand.

How is the drive head constructed?

The X-MOD is ruggedly built, using high capacity, precision ball type linear bearings and shock absorbers at all travel stops for long life and higher cycle rates. Standard components are used to avoid many "proprietary" spare parts issues.

/or thrust of the unit. The drive and transport strokes can be joined or separated in the field. The tool mounting and screw jaw tooling can also be interchanged readily, allowing quick adaptation to new applications. The X-Mod can also be tooled for pick and place operations.

What if my application changes in the future?

The modular design of the X-MOD allows easy changes to the stroke and

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