TITAN TOOL

100 SERIES AUTOMATIC™ SELF-OPENING STUD DRIVER

- **Automatic stud projection**
- **Quick releasing, non-reversing, self-opening**
- **Heavy duty design for larger stud sizes.**

Excellent results on:

- **Power hand tools**
- **Single or multiple spindle units**
- **Semi- or fully automatic assembly machines**

Features:

- **Three tool sizes covering 3/8”-16 thru 1-1/8” and M10 thru M30 stud sizes**
- **AUTO-LOAD® gage for “automatic stud pick-up” and adjustable stud projection height**

Note:
For smaller stud sizes see TITAN LANCER® stud driver brochure.

TITAN®

100 SERIES AUTOMATIC™ SELF-OPENING STUD DRIVER

100 SERIES AUTOMATIC™ stud driver with AUTO-LOAD® gage

THE TITAN 100 SERIES AUTOMATIC™ STUD DRIVER

TITAN 100 SERIES AUTOMATIC stud drivers are designed for fast and accurate driving of larger studs (3/8" - 1 1/8" or M10-M30) to a predetermined projection height. Their time-proven design assures the ultimate in reliability and efficiency. 100 SERIES AUTOMATIC stud drivers automatically grip and release studs without screwing on or off and therefore are 50% faster than reversing type stud drivers.

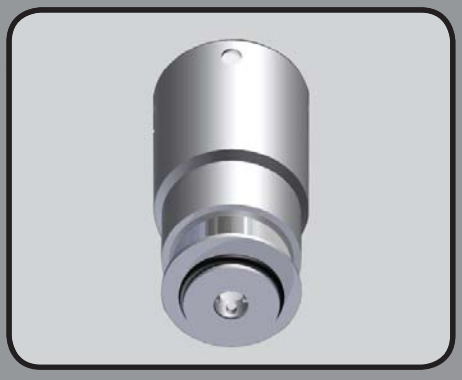
AUTOMATIC STUD PROJECTION HEIGHT

NOTE POSITION OF STUD: Even though stud has been driven to its required projection height, it has not been driven to bottom of tapped hole, and threads are still visible above the surface on casting end of stud. The TITAN 100 SERIES AUTOMATIC self-opening stud driver is designed specifically for this type of application. When the gage makes contact with part receiving stud it automatically causes the jaw assembly to release stud. Even though tool is still rotating, the stud cannot be driven any farther without adjusting the gage for a shorter projection height.

EASY PROJECTION HEIGHT ADJUSTMENT

The projection height setting is easily adjustable by moving the trip gage up or down the stud driver and locking it in place with the lock ring. (For longer projection height, make the tool longer; for shorter projection height, make the tool shorter.) Refer to Gage Chart for the minimum and maximum stud projection heights obtainable.

AUTO-LOAD® GAGE



An optional feature, called the AUTO-LOAD gage, is available when it is desirable to insert the stud into the stud driver to start the operation. This is achieved by spring-loaded pins in the AUTO-LOAD gage which hold the stud in position without fully loading it into the jaws. The stud may be inserted by hand, or by automatic feed or by shuttle plate. There is no torque on the stud when it is inserted into AUTO-LOAD gage only. The AUTO-LOAD gage functions the same as the trip gage, described above, in regard to obtaining required projection height. AUTO-LOAD gage is not necessary if the stud is started into the part.

POWER SOURCE

The TITAN 100 SERIES AUTOMATIC self-opening stud drivers are adaptable to any power source, except impact wrenches.

Recommended RPM		
#102 - 400	#103 - 300	#104 - 200

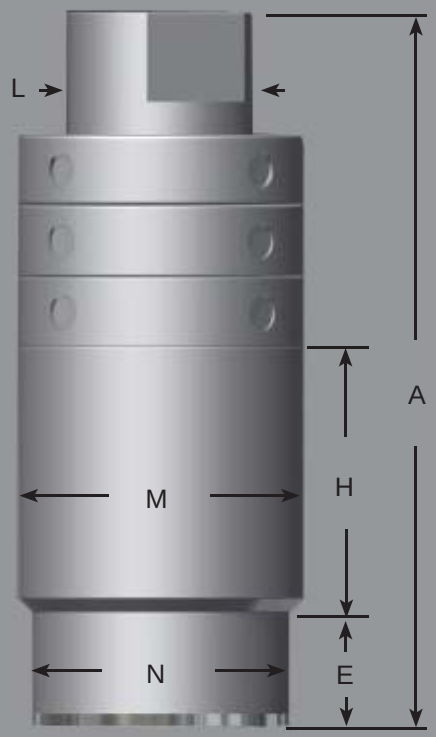
When used on rigid spindles the spindles should be spring loaded and allow for 3/8" free float after the trip gage has made contact with part to allow for jaws to release stud properly. TITAN TOOL COMPANY makes available the TTSL spring loaded spindle adaptor for this purpose. Refer to Multiple Spindle instruction sheet for further information on free float and spindle or slide stop.

The stud driver should be parallel to, and in line with, the stud at all times during the drive and retraction cycles.

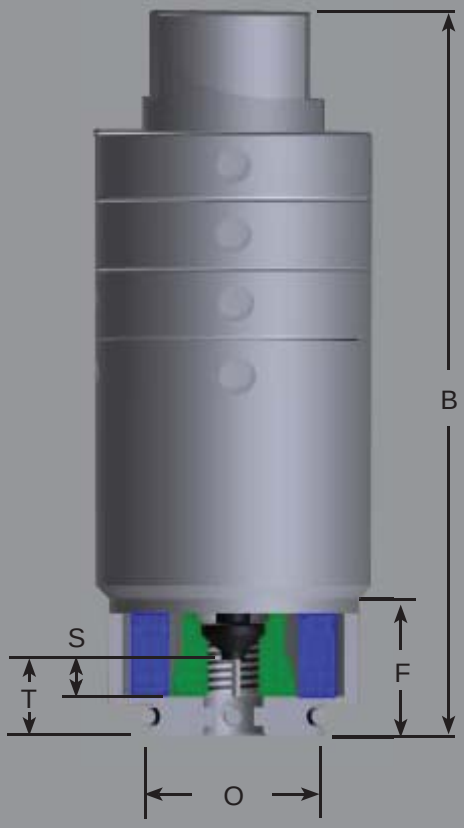
TOOL MAINTENANCE

TITAN 100 SERIES AUTOMATIC stud drivers are easy to maintain and repair. Instruction sheets and parts lists are available upon request. If desired, TITAN TOOL COMPANY offers a prompt, economical repair service of your stud driver when returned to the factory.

100 SERIES AUTOMATIC STUD DRIVER
with #10 gage



100 SERIES AUTOMATIC STUD DRIVER
with #10-AL AUTO-LOAD gage



Tools shown in shortest position (with jaws fully loaded and trip gage set to provide minimum stud projection from work piece).

To allow for free movement of internal parts and collapsible gage end when jaws are in unloaded position, add the following to total tool length:

#102 AUTOMATIC STUD DRIVER-
5/16" to 1/2"
(8mm to 13mm)

#103 AUTOMATIC STUD DRIVER-
15/32" to 11/16"
(12mm to 17mm)

#104 AUTOMATIC STUD DRIVER-
15/32" to 27/32"
(12mm to 21mm)

(Amount varies with position of stud driver - upright or inverted).

Any increase from the minimum projection height setting causes an equal increase in dimensions A, B, and T.

PHYSICAL DIMENSIONS FOR THE 100 SERIES AUTOMATIC STUD DRIVER

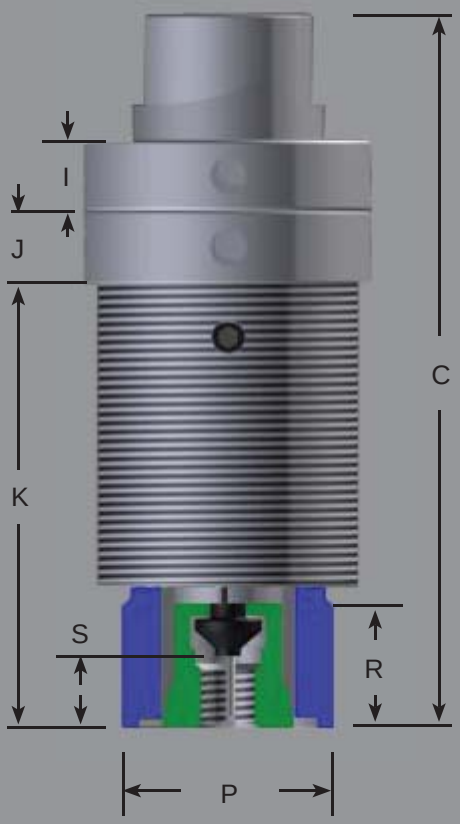
	DIMENSION	A	B	C	D	E	F	G	H	I
#102 AUTOMATIC	INCHES	5 1/16	5 9/32	4 11/16	5 9/32	13/16	1 1/32	1 5/16	1 7/8	1/2
	MILLIMETERS	129	134	119	134	21	26	33	48	13
#103 AUTOMATIC	INCHES	7 5/8	7 15/16	7 3/16	7 31/32	1 11/32	1 21/32	1 31/32	3 5/16	11/16
	MILLIMETERS	194	202	183	203	34	42	50	84	17
#104 AUTOMATIC	INCHES	9 5/32	*	8 7/16	9 7/16	1 15/16	*	2 9/16	4 1/8	7/8
	MILLIMETERS	233	*	214	240	49	*	65	105	22

	DIMENSION	J	K	L	M	N	O	P	Q	R
#102 AUTOMATIC	INCHES	1/2	2 1/16	1 5/16	2	1 13/16	1 1/4	1 1/2	1 13/16	27/32
	MILLIMETERS	13	52	33	51	46	32	38	46	21
#103 AUTOMATIC	INCHES	1/2	3 17/32	1 13/16	2 11/16	2 1/2	2	2 1/32	2 1/2	1 5/16
	MILLIMETERS	13	90	46	68	64	51	52	64	33
#104 AUTOMATIC	INCHES	1/2	4 1/4	2 5/8	3 7/8	3 3/8	*	2 29/32	3 1/2	1 5/16
	MILLIMETERS	13	108	67	98	86	*	74	89	33

NOTE: All dimensions ± 1/32" or .8mm

WEIGHT #102 AUTOMATIC 3 LBS.
#103 AUTOMATIC 8 1/2 LBS.
#104 AUTOMATIC 21-1/2 LBS.

100 SERIES AUTOMATIC STUD DRIVER
less gage, jaws closed



100 SERIES AUTOMATIC STUD DRIVER
less gage, jaws open

Tools shown less “trip gage”.

In certain cases the 100 SERIES AUTOMATIC self-opening stud driver may be run less gage. EXAMPLE: side interference does not provide sufficient clearance for use of trip gage, and therefore stud projection is controlled by some other means (such as spindle stops).

To allow for free movement of internal parts when jaws are in unloaded position, add the following:

#102 AUTOMATIC STUD DRIVER- 1/16” (minus 0)

#103 AUTOMATIC STUD DRIVER- 5/32” (minus 0)

#104 AUTOMATIC STUD DRIVER- 9/32” (minus 0)

(Amount varies with position of stud driver **-upright or inverted).**

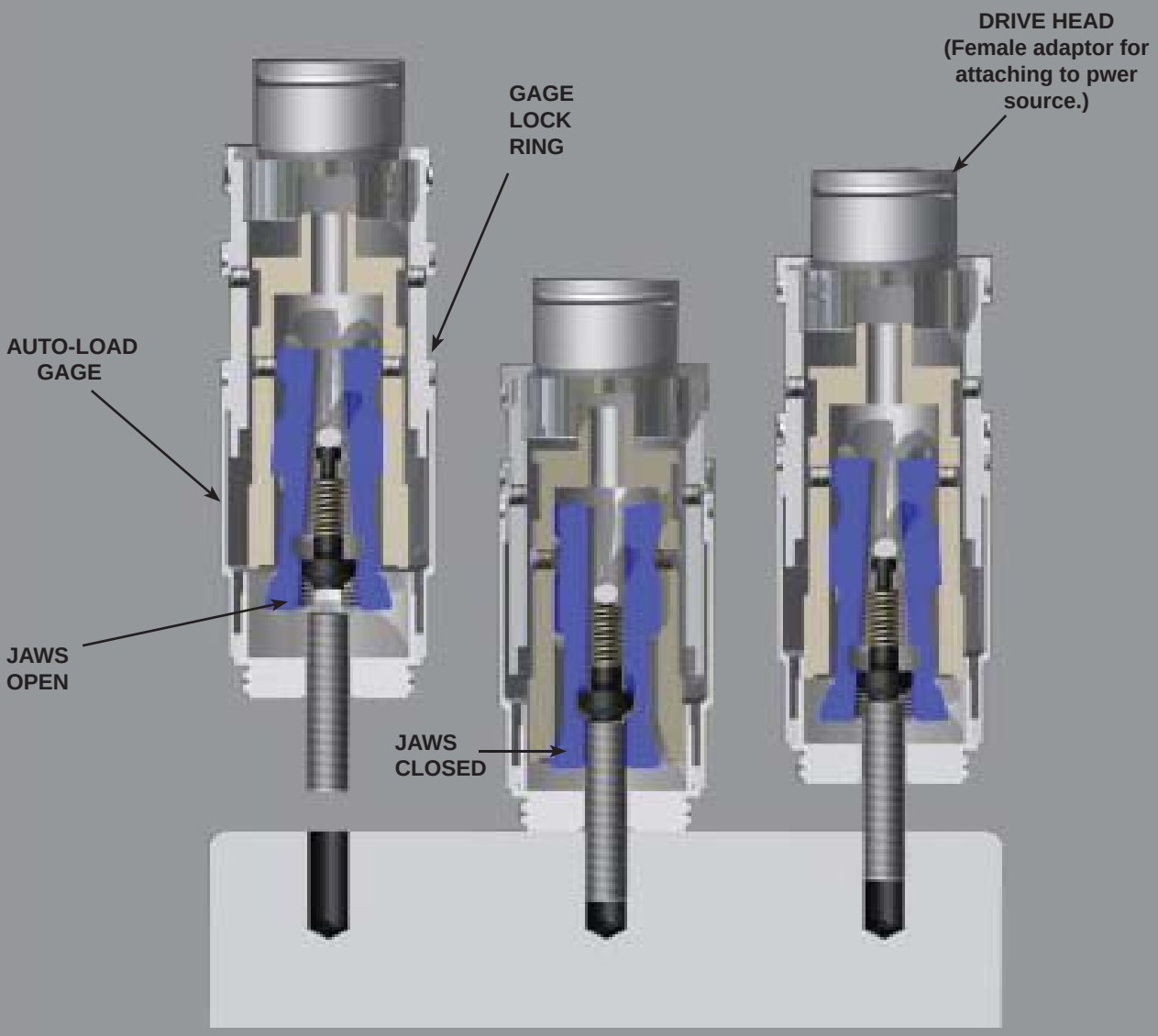
STUD ENGAGEMENT

				STUD SIZES	3/8 M10	7/16	1/2 M12	9/16 M14	5/8, 3/4 M16, M18, M20	7/8 M22	1, 1-1/8 M24, M27, M30
#102 AUTOMATIC	S	JAW THREAD GRIP ONLY		INCHES	9/16	9/16	9/16	-	-	-	-
				MILLIMETERS	14	14	14	-	-	-	-
	T	TOTAL STUD ENGAGEMENT WITH GAGE SET MINIMUM	#10	INCHES	15/16	15/16	15/16	-	-	-	-
				MILLIMETERES	24	24	24	-	-	-	-
			#10-AL AUTO-LOAD	INCHES	1 5/32	1 5/32	1 5/32	-	-	-	-
				MILLIMETERS	29	29	29	-	-	-	-
#103 AUTOMATIC	S	JAW THREAD GRIP ONLY		INCHES	-	21/32	3/4	27/32	7/8	-	-
				MILLIMETERS	-	17	19	21	22	-	-
	T	TOTAL STUD ENGAGEMENT WITH GAGE SET MINIMUM	#10	INCHES	-	1 1/8	1 7/32	1 5/16	1 11/32	-	-
				MILLIMETERS	-	29	31	33	34	-	-
			#10-AL AUTO-LOAD	INCHES	-	1 7/16	1 17/32	1 5/16	1 21/32	-	-
				MILLIMETERS	-	36	39	41	42	-	-
#104 AUTOMATIC	S	JAW THREAD GRIP ONLY		INCHES	-	-	-	-	15/16”	1 3/32	1 1/4
				MILLIMETERS-	-	-	-	-	24	28	32
	T	TOTAL STUD ENGAGEMENT WITH GAGE SET MINIMUM	#10	INCHES	-	-	-	-	1 21/32	1 13/16	1 31/32
				MILLIMETERS	-	-	-	-	42	46	50
			*	INCHES	-	-	-	-	-	-	-
				MILLIMETERS	-	-	-	-	-	-	-

Figure 1
Tool prior to loading of jaws. Stud has been pre-loaded into AUTO-LOAD gage only. Jaws will load automatically when stud contacts casting. Tool should be rotating at that time. (If stud is pre-started into casting. AUTO-LOAD gage is not necessary.)

Figure 2
Tool in positive driving position with driving balls puling jaws up into tapered nose bushing. Stud is nearly driving to required projection height.

Figure 3
Gage has contacted casting, projection height is achieved and jaws are again open. Tool is being lifted off stud and can be moved to next operation.



For Multiple Spindle Stud Driving:
PLEASE INQUIRE ABOUT OUR SPECIAL LITERATURE AVAILABLE UPON REQUEST