



### MILLING - CHIPSURFER WRENCHES

#### For ChipSurfer Connections

T05, T06, T08, T10, T12 & T15

#### Open End Wrench Sizes

4, 5, 6, 7, 8, 9, 10, 13 & 20 mm

#### Torx Drive Sizes

T20, T25, T30, T40 & T50

#### Torque Adjustment Range

3.5-37 ft-lb (5-50 Nm)

# CHIPSURFER™ Wrenches

#### ChipSurfer Wrench Options

Although you can feel and measure when an Ingersoll Chip Surfer tip mates properly with the shank by using the manual wrench, it is possible for them to be under-torqued AND over-torqued. For secure and accurate tightening, use of a torque wrench is recommended.



Adjustable Torque Wrench

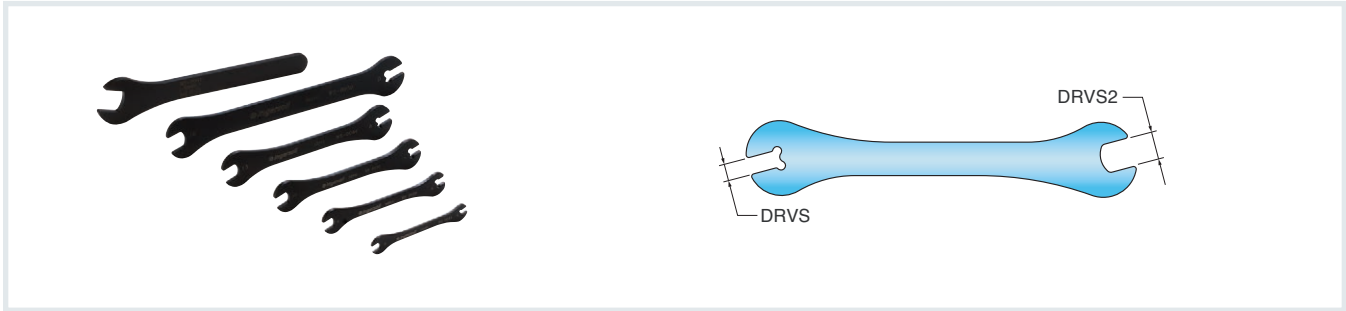
Preset Torque Wrench

Manual Wrenches

See it in action »



## Thin Open End Wrench (Manual)



Part Number	DRVS Drive Size Pressed Style Tips	DRVS2 Drive Size Rod Style Tips	CCWS Connection Code Workpiece Side
WS-0029	5 mm External	8 mm External	ChipSurfer T06
WS-0030	7 mm External	10 mm External	ChipSurfer T08
WS-0043	4 mm External	6 mm External	ChipSurfer T05
WS-0044	8 mm External	13 mm External	ChipSurfer T10
WS-0059	9 mm External	16 mm External	ChipSurfer T12
WS-0061	20 mm External	20 mm External	ChipSurfer T15
Kit ChipSurfer Wrench	Various - As Shown	Various - As Shown	ChipSurfer T05 - T15

## Torx Drive L-Key (Manual)



Part Number	DRVS Drive Size
DS-T20/3L	T20 Torx
DS-T25L	T25 Torx
DS-T30/3L	T30 Torx
DS-T40/3L	T40 Torx
DS-T50L	T50 Torx

## Torque Wrench (Pre-Set)



Part Number	Description
DT-60-04	Torque Wrench for T05 ChipSurfer Heads 4 mm Opening Pre-Set to 60 in lbs
DT-60-06	Torque Wrench for T05 ChipSurfer Heads 6 mm Opening Pre-Set to 60 in lbs
DT-90-05	Torque Wrench for T06 ChipSurfer Heads 5 mm Opening Pre-Set to 90 in lbs
DT-90-07	Torque Wrench for T06 ChipSurfer Heads 7 mm Opening Pre-Set to 90 in lbs
DT-90-08	Torque Wrench for T06 ChipSurfer Heads 8 mm Opening Pre-Set to 90 in lbs
DT-130-07	Torque Wrench for T08 ChipSurfer Heads 7 mm Opening Pre-Set to 130 in lbs
DT-130-08	Torque Wrench for T08 ChipSurfer Heads 8 mm Opening Pre-Set to 130 in lbs
DT-130-10	Torque Wrench for T08 ChipSurfer Heads 10 mm Opening Pre-Set to 130 in lbs
DT-250-08	Torque Wrench for T10 ChipSurfer Heads 8 mm Opening Pre-Set to 250 in lbs
DT-250-09	Torque Wrench for T10 ChipSurfer Heads 9 mm Opening Pre-Set to 250 in lbs
DT-250-13	Torque Wrench for T10 ChipSurfer Heads 13 mm Opening Pre-Set to 250 in lbs
DT-250-16	Torque Wrench for T12 ChipSurfer Heads 16 mm Opening Pre-Set to 250 in lbs
DT-350-20	Torque Wrench for T15 Chip Surfer Heads 20 mm Opening Pre-Set to 350 in lbs

## Torque Wrench (Adjustable)



Part Number	Description
Torque Wrench 5-50NM 9x12	Adjustable Torque Handle (5-50 NM) for use with Chip Surfer Heads & Torque Drive Heads. 9x12 mm Drive Adaption.

## Open End Wrench For Rod Style Tips



Part Number	Description
CS Wrench 10-08 15NM	10 mm Wrench Head, T8
CS Wrench 13-10 28NM	13 mm Wrench Head, T10
CS Wrench 16-12 28NM	16 mm Wrench Head, T12
CS Wrench 20-15 40NM	20 mm Wrench Head, T15
CS Wrench 6-05 7NM	6 mm Wrench Head, T5
CS Wrench 8-06 10NM	8 mm Wrench Head, T6
DT-24	24 mm Wrench Head, T21*

\*14x18 mm drive fits most third-party adjustable torque wrench handles that can be set to 970 in/lbs.

## Open End Wrench For 2-Flute Pressed Style Tips



Part Number	Description
CS Wrench 4E-05 7NM	4 mm Wrench Head, T5
CS Wrench 5E-06 10NM	5 mm Wrench Head, T6
CS Wrench 7E-08 15NM	7 mm Wrench Head, T8
CS Wrench 8E-10 28NM	8 mm Wrench Head, T10
CS Wrench 9E-12 28NM	9 mm Wrench Head, T12

## 90° Socket Adapter



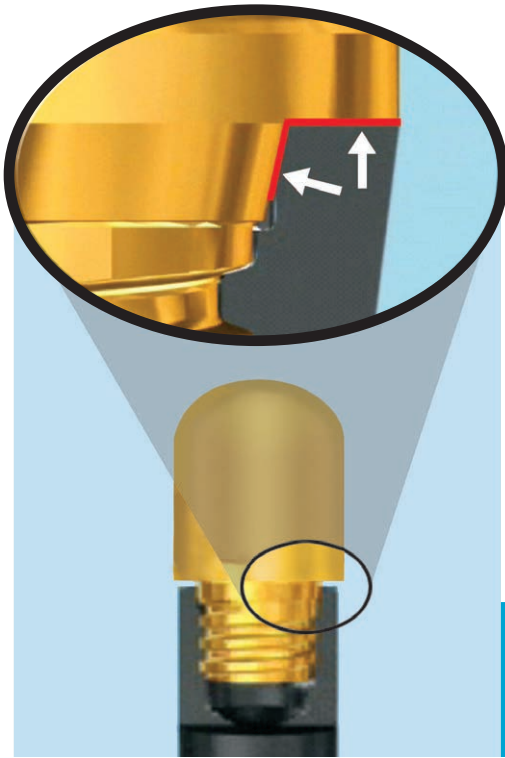
Part Number	Description
Insert Tool 3/8" 9x12 mm	90° Socket Adapter for Torx Drive Heads, 3/8" Square Drive, 9x12 mm Connection

## Torx Drive Heads



Part Number	Description
Bit Socket T20 3/8" Drive	T20 Torx Bit Socket, 3/8" Square Drive
Bit Socket T25 3/8" Drive	T25 Torx Bit Socket, 3/8" Square Drive
Bit Socket T30 3/8" Drive	T30 Torx Bit Socket, 3/8" Square Drive
Bit Socket T40 3/8" Drive	T40 Torx Bit Socket, 3/8" Square Drive
Bit Socket T50 3/8" Drive	T50 Torx Bit Socket, 3/8" Square Drive

## Technical Information



» When assembling, be sure carbide tip is seated firmly on shank with no gap

» No lubricant on adaption

» Tightening Torque:

T05=60in/lbs

T06=90in/lbs

T08=130in/lbs

T10=250in/lbs

T12=250in/lbs

T15=350in/lbs

T21=970in/lbs

See it in  
action »



## Indexing Chipsurfer Tips With Manual Wrench

- Step 1:** Screw tip into shank until finger tight (Figure 1a). Note a .010" gap (Figure 1b).
- Step 2:** Use wrench to torque approximately 1/4 turn, creating a simultaneous fit (Figure 2).
- Step 3:** Use .001" shim stock to check the simultaneous fit at the intersection of the tip and the shank.  
The shim should not be able to enter the intersection (Figure 3a).  
If it does, tighten further with the wrench until there is no gap (Figure 3b).

**Note:** Pre-set torque wrenches (series DT-. . .) can be purchased.

