



# MORTORQ® SPIRAL DRIVE SYSTEM

## DRIVER SIZES

MTS-000 THRU MTS-8

## SCREW SIZES

#0 (M1.5) THRU 1 IN (M25)

## APPLICATIONS

BOEING 787

LOCKHEED MARTIN C-5

ROLLS-ROYCE TRENT 1 000

ROLLS-ROYCE TRENT XWB

NORTHROP GRUMMAN B-2

USAF ALQ-188

LOCKHEED MARTIN F-16

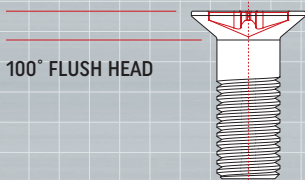
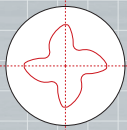
METEOR MISSILE

## Maximum reliability reduces replacement costs and shrinks production cycle time

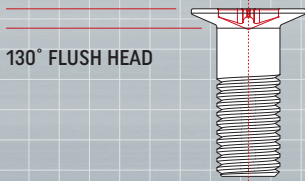
The **MORTORQ®** Spiral Drive System offers outstanding operational and cost efficiencies. Its unique shape provides full contact of the driver over the recess wing resulting in extremely high torque capability without risk of damage to the fastener, tool, or surrounding area. This ensures that **MORTORQ®** fasteners are able to withstand damage and still be removed.



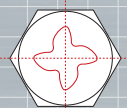
Phillips supports multiple head-style options in various screw sizes and thread types



100° FLUSH HEAD



130° FLUSH HEAD



HEX BOLT

## FEATURES

- Patented curved wings
- High damage tolerance
- Shallow recess depth
- Thicker drive wings
- Larger drive-to-recess clearance
- High removal torque
- Phillips Screw Company quality inspections

## BENEFITS

- Full driver-to-recess wall contact
- Lower loading per mm<sup>2</sup>
- Optimum torque transfer
- Ability to remove damaged, corroded or seized fasteners
- Eliminates drill outs
- Stronger head-to-shank design
- Reduces weight
- Stronger drive tool
- Enables off-angle driving
- Ability to remove fasteners even with heavy paint build up
- Assures removal of fastener under severe conditions
- Assures global system quality and compatibility

For additional information on genuine Phillips Drive Systems and our licensed manufacturers, contact one of our technical representatives at (781)-224-9750





# MORTORQ® SPIRAL DRIVE SYSTEM

## MORTORQ® Spiral Drive Bit National Stock Numbers (NSN)

Point Size	Overall Length	National Stock No.
<b>1/4" HEX INSERT BIT</b>		
0	1.0"	5130-01-581-5339
1	1.0"	5130-01-581-5340
2	1.0"	5130-01-581-5342
<b>1/4" HEX INSERT BIT</b>		
0	1.3125"	5130-01-581-5341
1	1.3125"	5130-01-581-5343
2	1.3125"	5130-01-581-5344
<b>5/16" HEX INSERT BIT</b>		
3	1.25"	5130-01-586-1893
<b>7/16" HEX POWER BIT</b>		
3	3.5"	5130-01-586-1894
4	3.5"	5130-01-586-1895
<b>5/8" HEX POWER BIT</b>		
5	3.5"	5130-01-586-1896

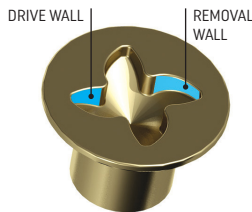


## MORTORQ® Spiral Drive vs. TORQ-SET® vs. TORX®

Example Application: #10 Screw Comparison

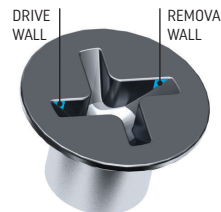
SYSTEM	MORTORQ®	TORQ-SET®	TORX®
<b>Screw</b>	#10	#10	#10
<b>Drive Size</b>	MT-1	10	T20
<b>Reference Diameter</b>	0.240	0.248	0.156
<b>Head Diameter</b>	0.333	0.333	0.333
<b>Head Height</b>	0.080	0.080	0.080
<b>Head Volume (Inch<sup>3</sup>)</b>	3.84x10 <sup>3</sup>	4.35x10 <sup>3</sup>	4.39x10 <sup>3</sup>
<b>Penetration</b>	0.034	0.068	0.055
<b>Surface Area In Contact With Drive Wall (Inch<sup>2</sup>)</b>	2.08x10 <sup>3</sup>	0.47x10 <sup>3</sup>	0.24x10 <sup>3</sup>
<b>Surface Area In Contact With Removal Wall (Inch<sup>2</sup>)</b>	3.32x10 <sup>3</sup>	0.47x10 <sup>3</sup>	0.24x10 <sup>3</sup>
<b>Bit Minimum Torque (Inch-LBS)</b>	315	100	112

The benefits of the **MORTORQ®** Spiral Drive are its greater torque capability resulting in significantly better performance over other drive systems. The **MORTORQ®** Spiral Drive minimizes cam-out and reduces damage to the surrounding airframe. Its off-angle driving capability is an advantage in cramped, hard-to-reach applications. It also reduces production and maintenance cycle time as the **MORTORQ®** Spiral Drive reduces the need to "drill out" damaged fasteners due to its anti-cam-out properties.



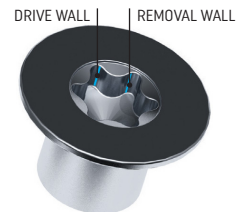
**MORTORQ®  
Spiral Drive System**

- High-strength recess
- Full driver-to-recess contact
- Reduced weight
- Anti-cam-out properties
- Off-angle driving capability
- Open recess to accommodate heavy paint build up
- Eliminates drill outs



**MORTORQ®  
Spiral Drive System  
vs. TORQ-SET®**

- **MORTORQ®** has 12% less head volume than **TORQ-SET®**
- **MORTORQ®** drive wall has 4.4 times more bit surface contact
- **MORTORQ®** removal wall has 7.1 times more bit surface contact



**MORTORQ®  
Spiral Drive System  
vs. TORX®**

- **MORTORQ®** has 13% less head volume than **TORX®**
- **MORTORQ®** drive wall has 8.6 times more bit surface contact
- **MORTORQ®** removal wall has 13.8 times more bit surface contact

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