

# MORTORQ® SPIRAL DRIVE SYSTEM

## APPLICATIONS

**DRIVER SIZES:** MT-000 THRU MT-8

**SCREW SIZES:** #0 (M1.5) THRU 1 IN (M25)

BOEING 787

USAF C-5

ROLLS-ROYCE TRENT 1000

ROLLS-ROYCE TRENT XWB

USAF B-2

USAF ALQ-188

LOCKHEED MARTIN F-16

METEOR MISSILE

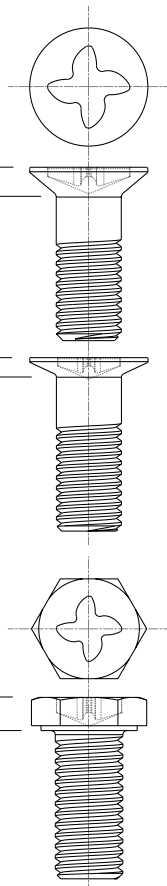
## OVERVIEW

PHILLIPS SUPPORTS THESE—AND MANY OTHER—POPULAR HEAD-STYLE OPTIONS IN VARIOUS SCREW SIZES AND THREAD TYPES.

100° FLUSH HEAD

130° FLUSH HEAD

HEX BOLT



**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.

→ For additional information on genuine Phillips Drive Systems and our licensed manufacturers, contact one of our technical representatives at +1 (781) 224-9750.



## FEATURES

- Patented curved wings
- High damage tolerance
- Shallow recess depth
- Thicker drive wings
- Larger drive-to-recess clearance
- High removal torque
- PSC 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

# MORTORQ® SPIRAL DRIVE SYSTEM

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



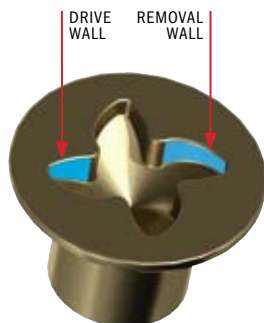
POINT SIZE	OVERALL LENGTH	NATIONAL STOCK NUMBER
<b>1/4" HEX INSERT BIT</b>		
0	1.0"	5130-01-581-5339
1	1.0"	5130-01-581-5340
2	1.0"	5130-01-581-5342
<b>1/4" HEX INSERT BIT</b>		
0	1.3125"	5130-01-581-5341
1	1.3125"	5130-01-581-5343
2	1.3125"	5130-01-581-5344
<b>5/16" HEX INSERT BIT</b>		
3	1.25"	5130-01-586-1893
<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

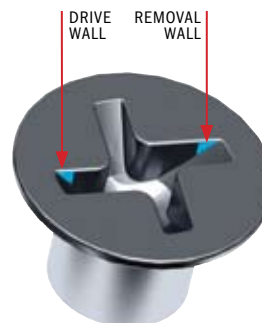
SYSTEM	MORTORQ	TORQ-SET	TORX
SCREW	#10	#10	#10
DRIVE SIZE	MT-1	10	T20
RECESS DIAMETER	0.240	0.248	0.156
HEAD DIAMETER	0.333	0.333	0.333
HEAD HEIGHT	0.080	0.080	0.080
HEAD VOLUME	3.84-03 INCH <sup>3</sup>	4.35-03 INCH <sup>3</sup>	4.39-03 INCH <sup>3</sup>
PENETRATION	0.034	0.068	0.055
SURFACE AREA IN CONTACT WITH DRIVE WALL	2.08-03 INCH <sup>2</sup>	0.47-03 INCH <sup>2</sup>	0.24-03 INCH <sup>2</sup>
SURFACE AREA IN CONTACT WITH REMOVAL WALL	3.32-03 INCH <sup>2</sup>	0.47-03 INCH <sup>2</sup>	0.24-03 INCH <sup>2</sup>
BIT MINIMUM TORQUE	315 INCH-LBS	100 INCH-LBS	112 INCH-LBS

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.



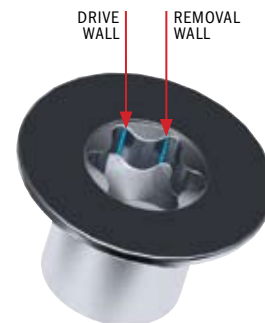
### MORTORQ Spiral Drive System

- 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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