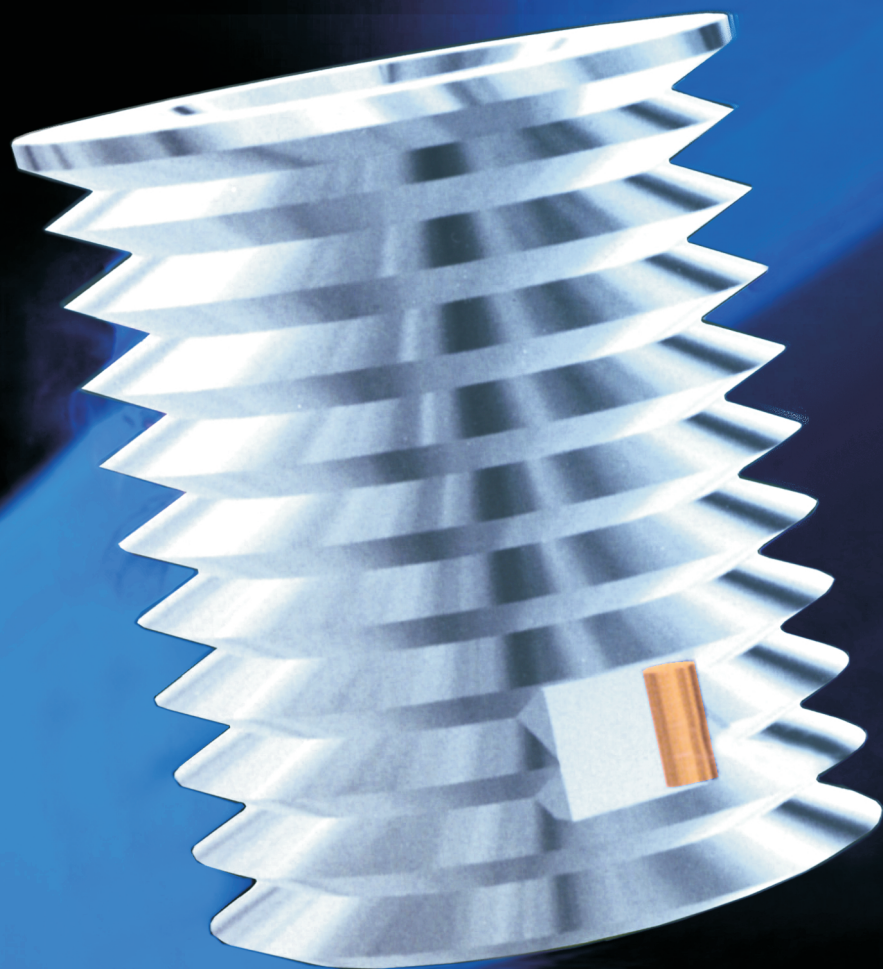


# BIG-SERT®

OVERSIZED REPAIRS

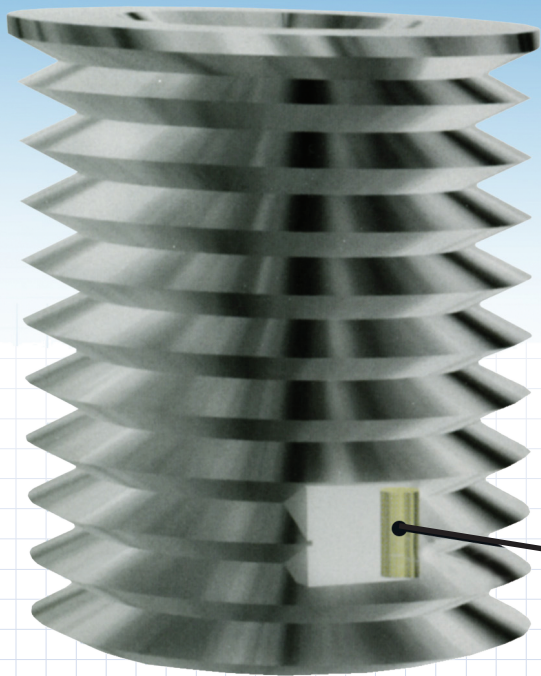


SCREW THREAD INSERTS



# BIG-SERT®

## OVERSIZED REPAIRS



**BIG-SERT®** IS A HEAVY WALL SOLID BUSHING. EASY TO INSTALL WITH POSITIVE PLACEMENT.

**BIG-SERT®** GIVES INCREASED LOAD PROTECTION FOR CRITICAL USE.

**BIG-SERT®** WILL REPAIR OVERSIZE HOLES WHICH HAVE BEEN REPAIRED.

SOCKET WITH A METAL PIN

**NOTE:** BOTTOM FEW INTERNAL THREADS ARE INCOMPLETE THE INSERT DRIVER (ROLL FORM TAP) SEATS THE INSERT AND COMPLETES THE BOTTOM THREADS. THIS PUSHES THE PIN OUT TO CONTACT THE THREADED HOLE. BACK OUT OF THE INSERT IS PREVENTED BY THE CAM LOCK EFFECT OF THE PIN.

### **KIT CONTENTS**

DRILL  
COUNTERBORE  
TAP  
INSERT DRIVER  
FIVE (5) STEEL INSERTS





# ENGINEERING DATA

INCH

METRIC

INSERT	DRILL		C.BORE		TAP
	SIZE	DRILL SIZE	MIN. DIA.	MIN. DEPTH	MAJOR DIA.
1/4 - 20	7.8mm	.307	.355	.050	.359
1/4 - 28	L	.290	.330	.055	.330
5/16 - 18	13/32	.406	.474	.085	.474
5/16 - 24	13/32	.406	.474	.085	.474
3/8 - 16	31/64	.484	.552	.085	.552
3/8 - 24	31/64	.484	.552	.085	.552
7/16 - 14	37/64	.578	.634	.085	.634
7/16 - 20	37/64	.578	.634	.085	.634
1/2 - 13	41/64	.640	.701	.085	.701
1/2 - 20	41/64	.640	.701	.085	.701

INSERT	DRILL		C.BORE		TAP
	SIZE	DRILL SIZE	MIN. DIA.	MIN. DEPTH	MAJOR DIA.
M5x0.8	D	.246	.290	.050	.290
M6x1.0	L	.290	.330	.085	.330
M7x1.0	U	.368	.440	.080	.422
M8x1.25	13/32	.406	.474	.085	.474
M10x1.0	31/64	.484	.552	.085	.552
M10x1.25	31/64	.484	.552	.085	.552
M10x1.5	31/64	.484	.552	.085	.552
M12x1.5	37/64	.578	.634	.085	.634
M12x1.75	37/64	.578	.634	.085	.634
M12x1.25	37/64	.578	.634	.085	.634

# KITS AND INSERTS

We recommend using sealer 6020 on external thread of insert for added strength.

INCH

METRIC

KIT	INSERT LENGTH		INSERTS		
	SIZE	PART#		INCHES	MM
10-32	5032S		.187	4.74	50324
1/4 - 20	5420		.380	9.4	54201
			.500	12.7	54203
1/4 - 28	5448		.380	9.4	54481
			.500	12.7	54483
5/16 - 18	5561		.450	11.4	55611
			.620	15.7	55613
5/16 - 24	5562		.450	11.4	55621
			.620	15.7	55623
3/8 - 16	5381		.400	10.1	53810
			.520	13.2	53811
			.750	19.0	53813
			1.000	25.4	53815
3/8 - 24	5382		.520	13.2	53821
			.750	19.0	53823
7/16 - 14	5761		.600	15.2	57611
			.870	22.0	57613
			1.000	25.4	57615
			1.250	31.7	57617
7/16 - 20	5762		.600	15.2	57621
			.870	22.0	57623
1/2 - 13	5121		.480	12.2	51210
			.650	16.5	51211
			1.000	25.4	51213
1/2 - 20	5122		.650	16.5	51221
			1.000	25.4	51223

KIT	INSERT LENGTH		INSERTS		
	SIZE	PART#		INCHES	MM
M5x0.8	5508		.300	7.6	55081
			.394	10.0	55083
M6x1.0	5610		.370	9.4	56101
			.470	12.0	56103
M7x1.0	5710		.394	10.0	57101
			.550	14.0	57103
			.708	18.0	57105
			.800	20.0	57107
M8x1.25	5812		.460	11.7	58121
			.640	16.2	58123
			.708	18.0	58125
M8x1.0	5810		.460	11.7	58101
M10x1.0	5011		.360	9.0	50111
			.600	15.0	50113
M10x1.25	5012		.550	14.0	50121
			.800	20.0	50123
			.960	24.5	50125
M10x1.5	5015		.550	14.0	50151
			.800	20.0	50153
			.960	24.5	50155
M11x1.25	5112D	Not for Deep Holes	1.180	30.0	51125
M12x1.5	5215		.360	9.2	52150
			.640	16.2	52151
			.950	24.0	52153
			1.180	30.0	52155
M12x1.75	5217		.472	12.0	52170
			.640	16.2	52171
			.950	24.0	52173
			1.180	30.0	52175
M12x1.25	5212		.360	9.0	52120
			.600	15.0	52121
			.689	17.5	52122
			.950	24.0	52123
			1.180	30.0	52125



# BIG-SERT SPARK PLUG M14X1.25

## M14x1.25 Spark Plug Repair Kits & Inserts

Repair Oversized holes as large as .660 inches or 16.8mm

### KIT PART NO. 5141S



Short kit inserts not included

**Inserts not included**

### KIT PART NO. 5141E



**Inserts not included**

BIG-SERT M14x1.25 Spark Plug				
WASHER SEAT INSERTS		Washer Seat Inserts	PART NO.	WASHER SEAT INSERTS
BIG-SERT WASHER SEAT INSERTS FOR FULLY THREADED SPARK PLUGS		.370 9.4	51401	
		.430 11.0	51403	
		.600 15.0	51405	
		.660 16.8	51407	

BIG-SERT M14x1.25 Spark Plug				
TAPER SEAT INSERTS		Taper Seat Inserts	PART NO.	TAPER SEAT INSERTS
BIG-SERT TAPER SEAT INSERTS FOR FULLY THREADED SPARK PLUGS		.430 11.0	51453	
		.600 15.0	51455	
		.660 16.8	51457	
		.950 24.0	51458	
FORD TRITON		.660 16.8	51459	
FORD Z-tech		.950 24.0	51460	

Inserts Also Available in Aluminum Just add an "A" after the Part Number

Short Kit Includes 8 inserts



P/N 5141S-457

Extended Kit includes 8 inserts



P/N 5141E-469

Inserts included in Kits 5141S-457 & 5141E-469

Washer Seat inserts

- 1) .370 9.4mm 51401
- 2) .660 16.8mm 51407
- 1) .905 23mm 51409

Taper Seat inserts

- 1) .430 11mm 51453
- 2) .660 16.8mm 51457
- 1) .905 23mm 51469

### FORD TRITON KIT PART NO. 5553



Includes (5) inserts

Kit P/N 5600



### Ford Triple Oversized KIT PART number 5600

TRIPLE OVERSIZED SPARK PLUG KIT M14x1.25  
Repairs holes from 17mm to 18.5mm  
or (.670 inches) to (.730 inches).

(not recommended for virgin holes use p/n 5553 kit)

### Ford Triple Oversized Add on Kit



KIT PART number 5588

### "ADD ON KIT" P/N 5588 FORD TRIPLE OVERSIZED REDUCER TO M14x1.25

This is a special kit that is used in conjunction with p/n 5553 or 5141E. You must have 1 of these kits above to use this addon repair.

The kit will repair holes as large as .730 inches by installing a special oversized insert that will accept our 3/4 reach M14x1.25 BIG-SERT inserts P/N 51459, 51407 or 51457. As long as you already have kit 5553 or 5141E.



# BIG-SERT SPARK PLUG REPAIR

The following instructions are for kits 5141S and 5141E



- |   |       |              |
|---|-------|--------------|
| 1 | 55511 | Wrench       |
| 1 | 51489 | Reamer       |
| 1 | 51483 | Tap          |
| 1 | 51490 | Driver       |
| 1 | 51484 | Setting tool |
| 1 | 55516 | hex key 1/8  |
| 1 | 51487 | Hex key 3/16 |
| 1 | 6020  | Sealer       |

**Stop:** Check that the valves are not open!  
The only 100% way to know the valves are not open is to remove the valve cover and inspect the cam, making sure that it is not depressing the valves on the damaged spark plug hole. Not recommended for holes larger than .660 inches or 16.8mm

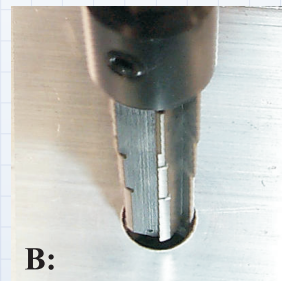
An optional way to check that the valves are closed, this is a 2 man job. Have someone turn the engine over by hand with an 18mm socket from the front of the engine. Turn the engine over until it is going up on the Compression Stroke. Place your thumb at the top of the spark plug hole at the same time to block off the air. When you feel the engine compression stop pushing air against your thumb the piston will be top dead center. Turn the engine a little more to be going down on the Power stroke, both valves should be closed at this point, and the piston should be all the way down.

**1) Place the Reamer into the square of the wrench and tighten the setscrew to secure the reamer in place. Picture A:**

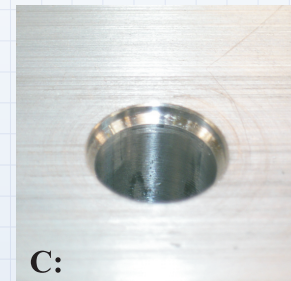


A:

**Ream the hole picture B : until black "Stop collar" touches the head. This will create the 45 degree countersink seen in picture C:**



B:



C:

**2) Tap the hole. Tap the hole with the wrench provided. There is a pilot at the front of the tap to help guide it straight into the hole.**

**Use contact or brake cleaner to thoroughly clean out any remaining chips and oil.**

**Continue instructions next page**



**Mechanics Tip 1: Packing the flutes with grease will help to catch any stray chip from going into the cylinder.**

**Mechanics Tip 2: Using a shop-vac with a thin hose taped to the nozzle is helpful for removing any remaining chips in the cylinder.**

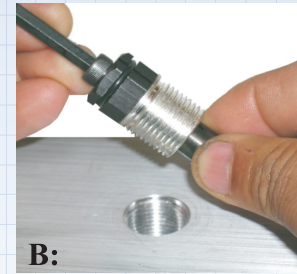


# BIG-SERT SPARK PLUG REPAIR

## 3) Setting tool.

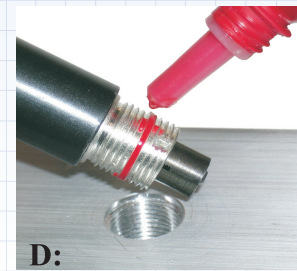
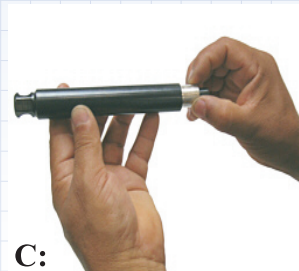
**A:** Screw the setting tool into the insert.  
**B:** Then lightly tighten the socket cap screw.

**Setting tool Note:**  
Remove collar for Triton and Ztech style inserts!  
P/N 51459 P/N 51460



**C:** Using the wrench provided place the setting tool into the wrench.

**D:** Place Lock-tite around the middle of the insert and into the clean prepared hole.



Screw the insert into the hole until the flange of the insert is seated to the head. This is approximately 20 foot pounds.

**E:** Hold the wrench, and in a counter-clockwise rotation, untighten the cap screw with the allen key provided, This will allow the setting tool to release itself from the insert.

**F:** You can now unscrew the setting tool from the insert.

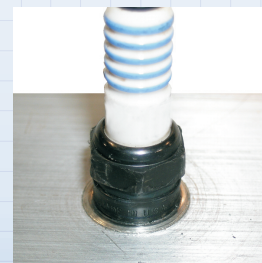


## 4) Install driver tool

Using the wrench provided, place the driver tool into the square and tighten the setscrew to secure the driver in place.

Oil the bottom threads of the install driver with a few drops of driver oil or 30wt motor oil.

Screw the driver into the insert. The driver will cold roll the last few threads of the insert. While screwing the driver into the insert you will feel the driver start to tighten up, with a little more power continue through the insert until it loosens up. Remove driver, repair is complete.





# UNIVERSAL BIG-SERT HEAD BOLT KITS

Normally used when a Helicoil or coil style insert has failed.  
**BIG-SERT Universal head bolt kits can be used in any application of bolt size listed below.**  
 A simple tool setup is all that is required.



**Universal M10x1.25 head bolt**  
 Kit Part No.6250BS    Insert Part No. 50125  
 Includes 10 inserts of a M10x1.25x25mm length

**Universal M10x1.5 head bolt**  
 Kit Part No.7580BS    Insert Part No. 50155  
 Includes 10 inserts of a M10x1.5x24.5mm length

**Universal M11x1.25 head bolt**  
 Kit Part No.11125BS    Insert Part No. 51125  
 Includes 10 inserts of a M11x1.25x28mm length

**Universal M11x1.5 head bolt**  
 Kit Part No.2200BS    Insert Part No. J-42385-507BS  
 Includes 10 inserts of a M11x1.5x30mm length

**Universal M11x2.0 head bolt**  
 Kit Part No.3700BS    Insert Part No. 37004  
 Includes 10 inserts of a M11x2.0 x30mm length

**Universal M12x1.25 head bolt**  
 Kit Part No.4700BS    Insert Part No. 52125  
 Includes 10 inserts of a M12x1.25x30mm length

**Universal M12x1.5 head bolt**  
 Kit Part No.4800BS    Insert Part No. 52155  
 Includes 10 inserts of a M12x1.5x30mm length

**Universal M12x1.75 head bolt**  
 Kit Part No.4900BS    Insert Part No. 52175  
 Includes 10 inserts of a M12x1.75x30mm length

## TAP GUIDES

Tap Guides are used with Standard Big-Sert kits

Tap guides insure that the threads are square to the surface of the hole.



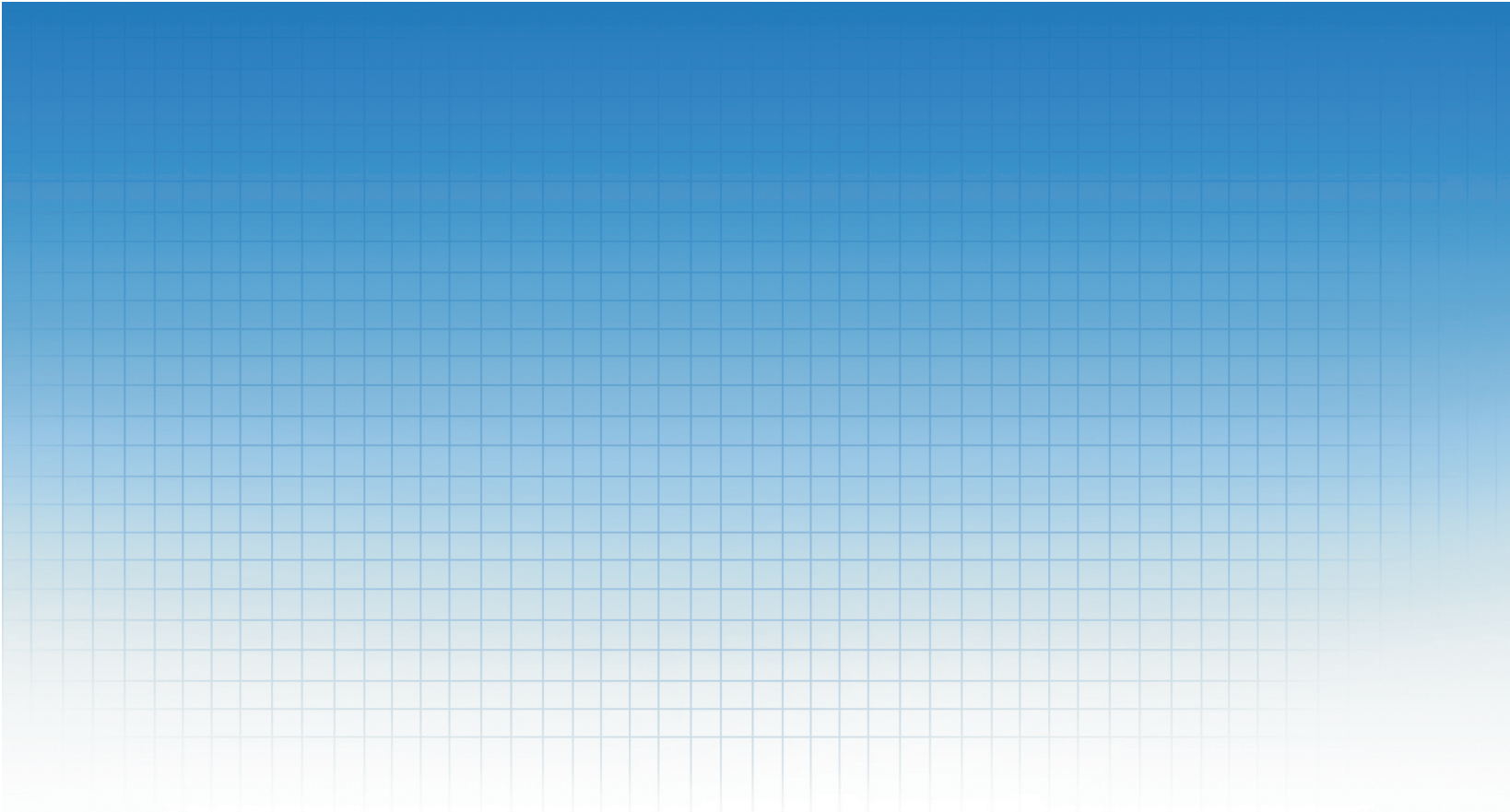
The lower portion of the tap guide should remain as square as possible to the engine surface. Turn the tap slowly while making sure the guide remains flush.

### INCH TAP GUIDES

SIZE	PART NO.
1/4-20	75405
1/4-28	75405
5/16-18	75515
5/16-24	75515
3/8-16	75315
3/8-24	75315
7/16-14	57655
7/16-20	57655
1/2-13	75115
1/2-20	75115

### METRIC TAP GUIDES

SIZE	PART NO.
M6 x 1.0	75605
M8 x 1.25	75825
M10 x 1.0	75025
M10 x 1.5	75025
M10 X 1.25	75025
M12 X 1.5	75255
M12 X 1.25	75255
M12 X 1.75	75255



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