

GERALD T.

No. 64-3

Page 1 of 7

March, 1964

TO: ALL ROOTES GROUP DEALERS

SUBJECT: RECLAMATION OF TAPPED HOLES IN ENGINE AND TRANSMISSION

MODEL: SUMMER TIP SPORT SEDAN

The following information is provided for reclaiming damaged threads in the Engine and Transaxle aluminium casings, using the Heli-coil inserts.

When fitting Heli-coil inserts it is essential that the correct size insert is used as shown on the attached list. All inserts must be positioned 1 to  $1\frac{1}{2}$  pitches below the top face of the hole, except where otherwise stated (see illustration).

Two taps are required, a roughing tap and a finishing bottom tap. When using the finishing tap it is important to ensure that the tap is run down to the specified depth and out again without backing off (i.e. do not reverse direction of tap until the bottom of the hole is reached). Always use a lubricant when tapping threads.

Should you encounter a condition where a cylinder head bolt fractures in the cylinder block on removal of the head, it is recommended that the following procedure is adopted:-

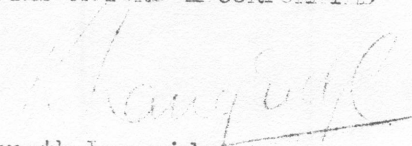
It will be necessary to drill out the broken portion of the bolt left in the block and it is suggested that a suitable guide sleeve is made up which will fit into the head bolt holes in the head. This sleeve can be easily made up using a  $7/16$  inch high tensile bolt with at least 2 inches unthreaded shank. Drill a  $\frac{1}{4}$  inch hole through the centre of the bolt on a lathe and cut off threaded portion. With the cylinder head bolted in position and using this sleeve in the hole where the top half of the broken bolt has been removed, drill a  $\frac{1}{4}$  inch pilot hole through the broken portion of the bolt. Remove the sleeve and drill out the broken bolt using a  $3/8$  inch drill. Remove the head, tap out holes and screw in Heli-coil insert. DO NOT break off the tang in this particular instance.

Whenever it is necessary to remove the cylinder head, all bolt threads should be dipped in Shell Ensis 256 Oil before refitting. This information should be brought to the immediate attention of workshop personnel.

SERVICE BULLETIN NO. 64-3

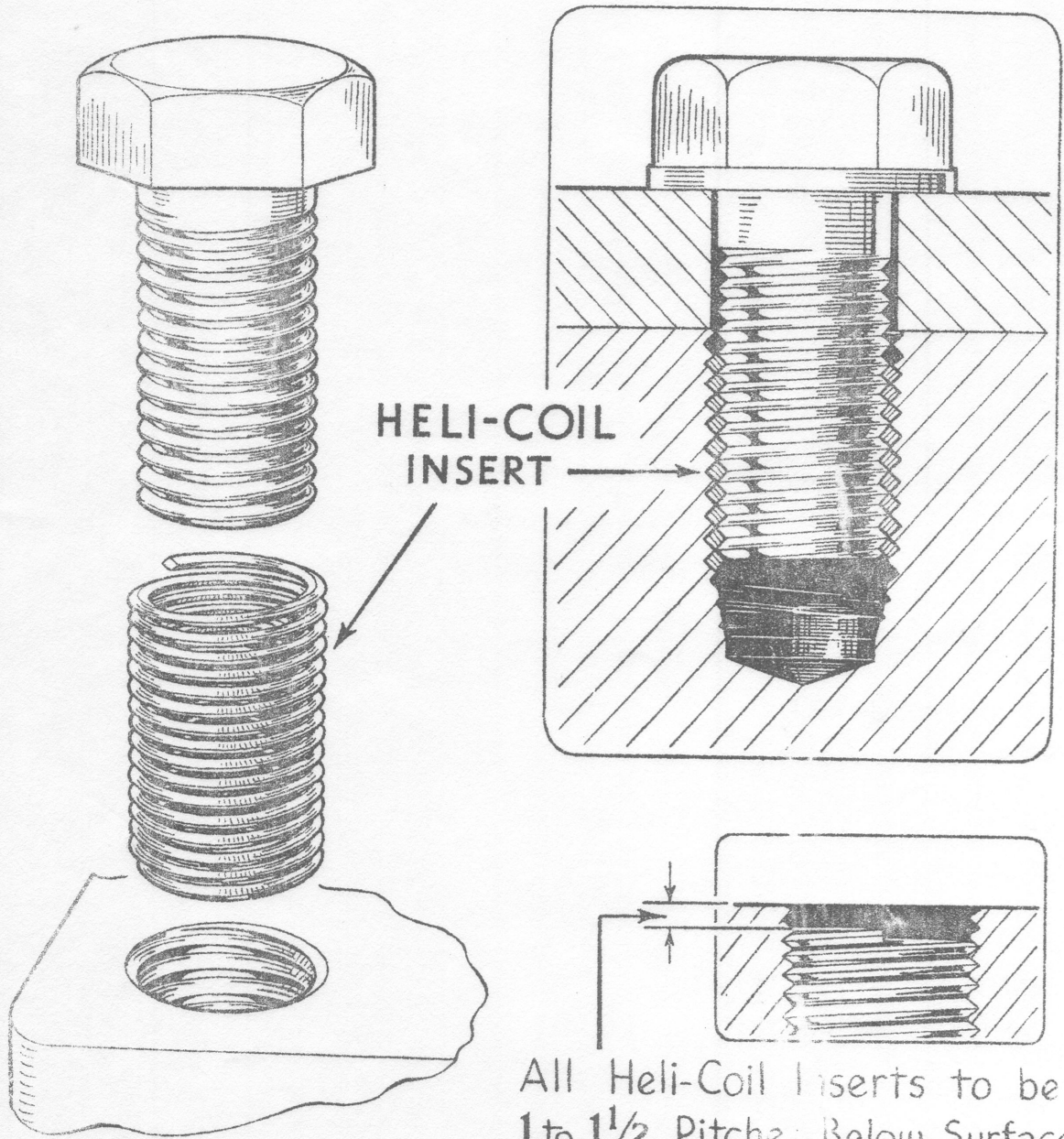
The attached sheets 1 - 7 give full specifications for insert sizes, taps, inserting tools, etc., and the relevant information must be strictly adhered to for each application. Sheet 7 gives a list of tool kits available. Kit HESK 1 covers all engine and transaxle applications except for sparking plug insert kit. Kits 2 - 13 cover the individual applications. Parts and Kits are available from Heli-Coil Agents/Distributors throughout the United States.

ROOVES MOTORS INCORPORATED



Kenneth Langridge  
General Service Manager

KL/je



7300

All Heli-Coil Inserts to be  
1 to 1½ Pitch Below Surface  
(Unless otherwise stated.)

E N G I N E

UNIT	Area Affected	Drill Size	Thread Size and Finishing Tap Depth	Roughing Tap No.	Finishing Tap No.	Heli-Coil Insert No.	Inserting Tool No.	Tang Break Off Tool No.
	Cylinder Head Face	3/8"	3/8 x 16 UNC x 1.37"	6 CRU	6 CBB	1185-6C x 1 1/4	528-6	Do not break off tang.
	Sump Face	1/4"	1/4 x 20 UNC x .56"	4 CRU	4 CBB	3585-4CN x 3/8	3551-4	3580-4
	Clutch Housing Face	3/8"	3/8 x 16 UNC - Thro'	6 CRU	6 CBB	3585-6CN x 7/8	3551-6	3580-6
	Timing Cover Face	5/16"	5/16x18 UNC-Thro'	5 CRU	5 CBB	3585-5CN x 3/8	3551-5	3580-5
	Chain Tensioner Bracket Face	1/4"	1/4 x 20 UNC x .68"	4 CRU	4 CBB	3585-4CN x 3/8	3551-4	3580-4
	Main Bearing Cap Tappings	7/16"	7/16x14 UNC x 1.16"	7 CRU	7 CBB	3585-7CN x 7/8	3551-7	3580-7
	Oil Filter Face	5/16"	5/16x18 UNC x .68"	5 CRU	5 CBB	3585-5CN x 15/32	3551-5	3580-5
	Breathing Tapping	5/16"	5/16x18 UNC - Thro'	5 CRU	5 CBB	3585-5CNx15/16	3551-5	3580-5
	Dynamo Bkt. Face	3/8"	3/8 x 16 UNC x .72"	6 CRU	6 CBB	3585-6CNx9/16	3551-6	3580-6
	Water Inlet	1/4"	1/4 x 20 UNC x .5"	4 CRU	4 CBB	1185-4CN x 1/4	528-4	1195-4

CYLINDER BLOCK

All dimensions shown in inches "

\* Only to be applied to Short stud tappings.

\*

E N G I N E

UNIT	Area Affected	Drill Size	Thread Size and Finishing Tap Depth	Roughing Tap No.	Finishing Tap No.	Heli-Coil Insert No.	Inserting Tool No.	Tang Break Off Tool No.	
Timing Cover	Cylinder Head Face	5/16"	5/16 x 18 UNC-Thro'	5 CRU	5 CBB	3585-5CN x 15/32	3551-5	3580-5	
	Distributor Face	1/4"	1/4 x 20 UNC x .5"	4 CRU	4 CBB	3585-4CN x 3/8	3551-4	3580-4	
**	Sump Face	1/4"	1/4 x 20 UNC x .5"	4 CRU	4 CBB	3585-4CN x 3/8	3551-4	3580-4	
	Oil Pump Face	1/4"	1/4 x 20 UNC - Thro'	4 CRU	4 CBB	3585-4CN x 3/8	3551-4	3580-4	
	** Only to be applied to <u>one</u> Tapping								
	Cambox Cover	Petrol Pump Face	5/16"	5/16 x 18 UNC-Thro'	5 CRU	5 CBB	3585-5CN x 15/32	3551-5	3580-5
Cylinder Head	Oil Filler Face	5/16"	5/16 x 18 UNC-Thro'	5 CRU	5 CBB	3585-5CN x 5/16	3551-5	3580-5	
	Cambox Cover Face	1/4"	1/4 x 20 UNC x .4"	4 CRU	4 CBB	1185-4CN x 1/4	528-4	1195-4	
Cylinder Head	Tappet Block Face	1/4"	1/4 x 20 UNC x .6"	4 CRU	4 CBB	3585-4CN x 3/8	3551-4	3580-4	
	Manifold Face	5/16"	5/16 x 18 UNC x .75"	5 CRU	5 CBB	3585-5CN x 15/32	3551-5	3580-5	
	Thermostat Housing Face	5/16"	5/16 x 18 UNC -Thro'	5 CRU	5 CBB	3585-5CN x 15/32	3551-5	3580-5	
	Spark Plug Tappings	9/16"	1/4 mm. x 1.25 mm. Thro'	525	521	1/4" Reach 6/44	542	Use Pliers	

All Dimensions shown in inches "

E N G I N E

All Dimensions shown in inches "

UNIT	Area Affected	Drill Size	Thread size and Finishing Tap Depth	Roughing Tap No.	Finishing Tap No.	Heli-Coil Insert No.	Inserting Tool No.	Tang Break Off Tool No.
Tappet Block	Camshaft Bearing Cap Face		NOT RECOMMENDED					
Rear Main Cap.	Sump Face	1/4"	1/4 x 20 UNC - Thro'	4 CRU	4 CBB	3585-4CN x 3/8	3551-4	3580-4
Induct Mani-Fold	Petrol Drain Tapping	W	1/8 x 28 BSP x .26"	2 PR	2 PB	1325-2CN x 3/16	PIP - 2	Use Pliers
Water Pump	Water Inlet Body	21/32"	3/8 x 19 BSP - Thro'	6 PR	6 PB	1325-6CN x 9/16	PIP - 6	Use Pliers
Gearbox Casing	Hypoid Casing Face	5/16"	5/16x18 UNC x .96"	5 CRU	5 CBB	3585-5CN x 3/8	3551-5	3580-5
	Mounting Cover	5/16"	5/16x18 UNC x 1.0"	5 CRU	5 CBB	3585-5CN x 3/8	3551-5	3580-5
*	Filler Plug & Drain Plug	53/64"	1/2 x 14 BSP - Thro'	8 PR	8 PB	1325-8CN x 1/2	PIP-8	Use Pliers
	Insert to be fitted to dowel holes .225" - .25" Deep from top face of hole.							
**	Hypoid Casing Face	5/16"	5/16 x18 UNC x 1.0"	5 CRU	5 CBB	3585-5CN x 3/8	3551-5	3580-5
Clutch Housing	Clutch With-drawal Lever Clip Stud	5/16"	5/16x18 UNC x .96"	5 CRU	5 CBB	3585-5CN x 3/8	3551-5	3580-5
	** Top Dowel hole insert must be positioned .225" - .25" below face. Bottom Dowel hole insert must be positioned .275" - .30" below face.							
Mounting Cover	Mounting Rubber Face	5/16"	5/16x18 UNC - Thro'	5 CRU	5 CBB	3585-5CN x 3/8	3551-5	3580-5
	Insert removal tools are available: For Inserts 1/8" to 3/8" inclusive Part No. 1227-6 For Inserts 7/16" to 1" inclusive Part No. 1227-16							

SUNBEAM IMP SPECIAL PURPOSE HELI-COIL SCREW  
THREAD REPAIR KIT

Contents:-

Kit Ref	Size	Ruf. Tap.	Fin. Bott.	Insert- ing Tool	Tang Bk.- Off Tool	Inserts
HISK 1.	1/4" UNC Std.	4 CRU	4 CBB	(528-4	1195-4	(12) 1185-4CN x 1/4"
	1/4" UNC S/L.			(3551-4	3580-4	(12) 3585-4CN x 3/8"
	5/16" UNC S/L.	5 CRU	5 CBB	3551-5	3580-5-	(12) 3585-5CN x 5/16"
					-	(12) 3585-5CN x 15/32"
					-	(12) 3585-5CN x 5/8"
	3/8" UNC Std.			(528-6	-	(36) 1185-6C x 1.1/8"
	3/8" UNC S/L	6 CRU	6 CBB	(3551-6	3580-6	(12) 3585-6CN x 9/16"
						(12) 3585-6CN x 3/4"
	7/16" UNC S/L	7 CRU	7 CBB	3551-7	3580-7	(12) 3585-7CN x 7/8"
	1/8" BSP Std.	2 PR	2 PB	PIP-2	-	(12) 1325-2CN x 3/16"
	3/8" BSP Std.	6 PR	6 PB	PIP-6	-	(12) 1325-6CN x 9/16"
	1/2" BSP Std.	8 PR	8 PB	PIP-8	-	(12) 1325-8CN x 1/2"

SUNBEAM IMP SPECIAL SINGLE SIZE HELI-COIL SCREW  
THREAD REPAIR KITS

Contents:-

Kit Ref	Size	Ruf. Tap.	Fin. Bott.	Insert- ing Tool.	Tang Bk.- Off Tool	Inserts
HISK 2.	1/4" UNC Std.	4 CRU	4 CBB	528-4	1195-4	(12) 1185-4CN x 1/4"
HISK 3.	1/4" UNC S/L	4 CRU	4 CBB	528-4	3580-4	(12) 3585-4CN x 3/8"
HISK 4.	5/16" UNC S/L	5 CRU	5 CBB	3551-5	3580-5	(12) 3585-5CN x 5/16"
HISK 5.	5/16" UNC S/L	5 CRU	5 CBB	3551-5	3580-5	(12) 3585-5CN x 15/32"
HISK 6.	5/16" UNC S/L	5 CRU	5 CBB	3551-5	3580-5	(12) 3585-5CN x 5/8"
HISK 7.	3/8" UNC S/L	6 CRU	6 CBB	528-6	-	(36) 1185-6C x 1.1/8"
HISK 8.	3/8" UNC S/L	6 CRU	6 CBB	3551-6	3580-6	(12) 3585-6CN x 9/16"
HISK 9.	3/8" UNC S/L	6 CRU	6 CBB	3551-6	3580-6	(12) 3585-6CN x 3/4"
HISK 10	7/16" UNC S/L	7 CRU	7 CBB	3551-7	3580-7	(12) 3585-7CN x 7/8"
HISK 11	1/8" BSP Std.	2 PR	2 PB	PIP-2	-	(12) 1325-2CN x 3/16"
HISK 12	3/8" BSP Std.	6 PR	6 PB	PIP-6	-	(12) 1325-6CN x 9/16"
HISK 13	1/2" BSP Std.	8 PR	8 PB	PIP-8	-	(12) 1325-8CN x 1/2"

All Dimensions shown in inches "