



Thin Wall Insert Tooling

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Technicut specialises in the design and manufacture of the unique wylcut-swift range of thin wall insert tooling solutions.

Our optimised wobble broaches (pre-insertion) and insertremoval tooling (post-insertion) solutions are utilised in the production and re-furbishment of the thin wall insert (or self-locking) system for the manufacture and maintenance of both aeroengines and turbines.

Technicut's unique thin wall insert system provides numerous benefits compared with the alternative wire thread insert system, including the:

- Enhanced reliability for all critical aeroengine applications.
- Reduced costs over the life of an engine or its components, where the prevention of the undesirable effects of vibration on its anchor screws is necessary.
- 'In service' cost reductions through the requirement to only replace the insert after 20 or more uses, rather than at every screw removal.

Form Drill

Manufactured from solid carbide, the preparation form drill produces the counterbore and the chamfer leads for the drill tapped hole and counterbore.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSFDC-19	737392	0.190" x 32 UNJF	AS52760	AS52790	20
WSFDC-25	737393	0.250" x 28 UNJF	AS52761	AS52791	24
WSFDC-31	737394	0.312" x 24 UNJF	AS52762	AS52792	29
WSFDC-37	737395	0.375" x 24 UNJF	AS52763	AS52793	34
WSFDC-43	737396	0.4375" x 20 UNJF	AS52764	AS52794	39
WSFDC-50	737397	0.500" x 20 UNJF	AS52765	AS52795	44
WSFDC-04	737398	MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSFDC-05	737399	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSFDC-06	737400	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSFDC-07	737406	MJ7 x 1.00"	EN3236-070	EN3237-070	27
WSFDC-08	738572	MJ8 x 1.00"	EN3236-080	EN3237-080	28
WSFDC-10	738866	MJ10 x 1.25"	EN3236-100	EN3237-100	33

Broach Holder

This standard wobble broach holder is non adjustable and takes 8mm diameter wobble broach shanks.



Product Code	Rolls-Royce ID No.	D	L
WSWBH-2101	789399	20mm	38mm
WSWBH-2102	789400	0.750"	1.50"
WSWBH-2103	788910	25mm	50mm
WSWBH-2104	789398	1.000"	31/32"
WSWBH-2105	788933	1.000"	1-13/16"

Broach Holder

Special Access



The special access broach holder has a smaller diameter body compared to the Standard broach holder allowing it to access tighter areas.



Product Code	Rolls-Royce ID No.	D	L	Ø
WSLDWBH-1308	733592	13mm	38mm	27mm
WSLDWBH-1408		14mm	38mm	28mm

Broach Holder

This standard wobble broach holder is non adjustable and takes 8mm diameter wobble broach shanks.



Product Code	Rolls-Royce ID No.	D	L	Ø
WS37601	788933	25.4mm	46mm	36mm

Wobble Broach

The wobble broach is used in conjunction with a standard wobble broach holder to produce the serrations for thin wall insert installation.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSWB-19	730752	0.190" x 32 UNJF	AS52760	AS52790	20
WSWB-25	730753	0.250" x 28 UNJF	AS52761	AS52791	24
WSWB-31	730754	0.312" x 24 UNJF	AS52762	AS52792	29
WSWB-37	730755	0.375" x 24 UNJF	AS52763	AS52793	34
WSWB-43	730763	0.4375" x 20 UNJF	AS52764	AS52794	39
WSWB-50	730764	0.500" x 20 UNJF	AS52765	AS52795	44
WSWB-04	730765	MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSWB-05	730756	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSWB-06	730757	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSWB-07	730758	MJ7 x 1.00"	EN3236-070	EN3237-070	27
WSWB-08	730766	MJ8 x 1.00"	EN3236-080	EN3237-080	28
WSWB-10	730767	MJ10 x 1.25"	EN3236-100	EN3237-100	33

Wobble Broach (H)

The wobble broach 'h' is for tougher materials used in conjunction with a Standard wobble broach holder to produce the serrations for thin wall insert installation.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSWB-19H	750008	0.190" x 32 UNJF	AS52760	AS52790	20
WSWB-25H	750009	0.250" x 28 UNJF	AS52761	AS52791	24
WSWB-31H	750010	0.312" x 24 UNJF	AS52762	AS52792	29
WSWB-37H	750011	0.375" x 24 UNJF	AS52763	AS52793	34
WSWB-43H	750012	0.4375" x 20 UNJF	AS52764	AS52794	39
WSWB-50H	750013	0.500" x 20 UNJF	AS52765	AS52795	44
WSWB-04H		MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSWB-05H	750014	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSWB-06H	750015	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSWB-07H	750016	MJ7 x 1.00"	EN3236-070	EN3237-070	27
WSWB-08H	750017	MJ8 x 1.00"	EN3236-080	EN3237-080	28
WSWB-10H	750018	MJ10 x 1.25"	EN3236-100	EN3237-100	33

Wobble Broach (A)

The wobble broach 'a' is used in conjunction with the heavy duty adjustable 'Ws37601' wobble broach holder to produce the serrations for thin wall insert Installation.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSWB-19A	730768	0.190" x 32 UNJF	AS52760	AS52790	20
WSWB-25A	730769	0.250" x 28 UNJF	AS52761	AS52791	24
WSWB-31A	730770	0.312" x 24 UNJF	AS52762	AS52792	29
WSWB-37A	730771	0.375" x 24 UNJF	AS52763	AS52793	34
WSWB-43A	730772	0.4375" x 20 UNJF	AS52764	AS52794	39
WSWB-50A	730773	0.500" x 20 UNJF	AS52765	AS52795	44
WSWB-04A	730774	MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSWB-05A	730775	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSWB-06A	730776	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSWB-07A	730777	MJ7 x 1.00"	EN3236-070	EN3237-070	27
WSWB-08A	730778	MJ8 x 1.00"	EN3236-080	EN3237-080	28
WSWB-10A	730779	MJ10 x 1.25"	EN3236-100	EN3237-100	33

Wobble Broach (S)

The wobble broach 's' is used in conjunction with the light duty special access wobble broach holder to produce the serrations for thin wall insert installation in tighter areas.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSWB-19S	730752	0.190" x 32 UNJF	AS52760	AS52790	20
WSWB-25S	730753	0.250" x 28 UNJF	AS52761	AS52791	24
WSWB-31S	730754	0.312" x 24 UNJF	AS52762	AS52792	29
WSWB-05S	730756	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSWB-06S	730757	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSWB-07S	730758	MJ7 x 1.00"	EN3236-070	EN3237-070	27

Serration Gauge

The serration gauge is designed to check the counter-bore diameter before broaching and to check the length and depth of the serrations after broaching, Prior to the thin wall insert being installed.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSSERG-19	730780	0.190" x 32 UNJF	AS52760	AS52790	20
WSSERG-25	730781	0.250" x 28 UNJF	AS52761	AS52791	24
WSSERG-31	730782	0.312" x 24 UNJF	AS52762	AS52792	29
WSSERG-37	730783	0.375" x 24 UNJF	AS52763	AS52793	34
WSSERG-43	730784	0.4375" x 20 UNJF	AS52764	AS52794	39
WSSERG-50	730785	0.500" x 20 UNJF	AS52765	AS52795	44
WSSERG-04	730786	MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSSERG-05	730787	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSSERG-06	730788	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSSERG-07	730789	MJ7 x 1.00"	EN3236-070	EN3237-070	27
WSSERG-08	730790	MJ8 x 1.00"	EN3236-080	EN3237-080	28
WSSERG-10	730791	MJ10 x 1.25"	EN3236-100	EN3237-100	33

Tap

The tap is used to produce the thread for thin wall insert installation. Thread tapping is usually best undertaken after wobble broaching to ensure a distortion free thread, and therefore “best condition” for insert installation.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSTAP-19	-	0.190" x 32 UNJF	AS52760	AS52790	20
WSTAP-25	-	0.250" x 28 UNJF	AS52761	AS52791	24
WSTAP-31	-	0.312" x 24 UNJF	AS52762	AS52792	29
WSTAP-37	-	0.375" x 24 UNJF	AS52763	AS52793	34
WSTAP-43	-	0.4375" x 20 UNJF	AS52764	AS52794	39
WSTAP-50	-	0.500" x 20 UNJF	AS52765	AS52795	44
WSTAP-04	-	MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSTAP-05	-	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSTAP-06	-	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSTAP-07	-	MJ7 x 1.00"	EN3236-070	EN3237-070	27
WSTAP-08	-	MJ8 x 1.00"	EN3236-080	EN3237-080	28
WSTAP-10	-	MJ10 x 1.25"	EN3236-100	EN3237-100	33

Thread Gauge

The thread gauge is used after tapping the hole and consists of a 'go' and 'no go' Gauge. 'Go' gauges should be screwed in and passed through by hand without difficulty.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSGS-TH-19	-	0.190" x 32 UNJF	AS52760	AS52790	20
WSGS-TH-25	-	0.250" x 28 UNJF	AS52761	AS52791	24
WSGS-TH-31	-	0.312" x 24 UNJF	AS52762	AS52792	29
WSGS-TH-37	-	0.375" x 24 UNJF	AS52763	AS52793	34
WSGS-TH-43	-	0.4375" x 20 UNJF	AS52764	AS52794	39
WSGS-TH-50	-	0.500" x 20 UNJF	AS52765	AS52795	44
WSGS-TH-04	-	MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSGS-TH-05	-	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSGS-TH-06	-	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSGS-TH-07	-	MJ7 x 1.00"	EN3236-070	EN3237-070	27
WSGS-TH-08	-	MJ8 x 1.00"	EN3236-080	EN3237-080	28
WSGS-TH-10	-	MJ10 x 1.25"	EN3236-100	EN3237-100	33

Drive Wrench

The drive wrench is used to install the insert by screwing the insert into the tapped hole until it's 0.4Mm to 0.65Mm below the surface of the component. A depth gauge feature is incorporated in the design.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSDW-19	730792	0.190" x 32 UNJF	AS52760	AS52790	20
WSDW-25	730793	0.250" x 28 UNJF	AS52761	AS52791	24
WSDW-31	730794	0.312" x 24 UNJF	AS52762	AS52792	29
WSDW-37	730795	0.375" x 24 UNJF	AS52763	AS52793	34
WSDW-43	730796	0.4375" x 20 UNJF	AS52764	AS52794	39
WSDW-50	730797	0.500" x 20 UNJF	AS52765	AS52795	44
WSDW-04	730798	MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSDW-05	730799	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSDW-06	730800	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSDW-07	730801	MJ7 x 1.00"	EN3236-070	EN3237-070	27
WSDW-08	730802	MJ8 x 1.00"	EN3236-080	EN3237-080	28
WSDW-10	730803	MJ10 x 1.25"	EN3236-100	EN3237-100	33

Swage Tool

The swage tool is used to apply sufficient force via a “hammer blow” or “press” to swage the insert into the corresponding serrated counter-bore.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSST-19	730804	0.190" x 32 UNJF	AS52760	AS52790	20
WSST-25	730805	0.250" x 28 UNJF	AS52761	AS52791	24
WSST-31	730806	0.312" x 24 UNJF	AS52762	AS52792	29
WSST-37	730807	0.375" x 24 UNJF	AS52763	AS52793	34
WSST-43	730808	0.4375" x 20 UNJF	AS52764	AS52794	39
WSST-50	730809	0.500" x 20 UNJF	AS52765	AS52795	44
WSST-04	730810	MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSST-05	730811	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSST-06	730812	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSST-07	730813	MJ7 x 1.00"	EN3236-070	EN3237-070	27
WSST-08	730814	MJ8 x 1.00"	EN3236-080	EN3237-080	28
WSST-10	730815	MJ10 x 1.25"	EN3236-100	EN3237-100	33

After Swage Gauge

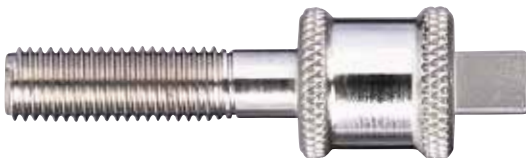
The purpose of the after swage gauge is to check that the swaging is not excessive or insufficient.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSASG-19	730829	0.190" x 32 UNJF	AS52760	AS52790	20
WSASG-25	730830	0.250" x 28 UNJF	AS52761	AS52791	24
WSASG-31	730831	0.312" x 24 UNJF	AS52762	AS52792	29
WSASG-37	730832	0.375" x 24 UNJF	AS52763	AS52793	34
WSASG-43	730833	0.4375" x 20 UNJF	AS52764	AS52794	39
WSASG-50	730834	0.500" x 20 UNJF	AS52765	AS52795	44
WSASG-04	730835	MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSASG-05	730838	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSASG-06	730839	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSASG-07	730840	MJ7 x 1.00"	EN3236-070	EN3237-070	27
WSASG-08	730841	MJ8 x 1.00"	EN3236-080	EN3237-080	28
WSASG-10	730842	MJ10 x 1.25"	EN3236-100	EN3237-100	33

Torque Test Mandrel

The torque test mandrel is used in conjunction with a torque wrench which is preset to the rolls royce 'jes' specification to check the minimum locking torque of the insert.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSTTM-19	730863	0.190" x 32 UNJF	AS52760	AS52790	20
WSTTM-25	730864	0.250" x 28 UNJF	AS52761	AS52791	24
WSTTM-31	730865	0.312" x 24 UNJF	AS52762	AS52792	29
WSTTM-37	730866	0.375" x 24 UNJF	AS52763	AS52793	34
WSTTM-43	730867	0.4375" x 20 UNJF	AS52764	AS52794	39
WSTTM-50	730868	0.500" x 20 UNJF	AS52765	AS52795	44
WSTTM-04	730869	MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSTTM-05	730870	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSTTM-06	730871	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSTTM-07	730872	MJ7 x 1.00"	EN3236-070	EN3237-070	27
WSTTM-08	730873	MJ8 x 1.00"	EN3236-080	EN3237-080	28
WSTTM-10	730874	MJ10 x 1.25"	EN3236-100	EN3237-100	33

Insert Removal Tool

The insert removal tool is used to remove & repair the existing thin wall insert. The Threaded pilot and counter-bore teeth are designed to maintain the tool alignment with the insert axis whilst simultaneously cutting the swage portion of the insert without damaging the serrated area.



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSIRT-19	726068	0.190" x 32 UNJF	AS52760	AS52790	20
WSIRT-25	726069	0.250" x 28 UNJF	AS52761	AS52791	24
WSIRT-31	726070	0.312" x 24 UNJF	AS52762	AS52792	29
WSIRT-37	726071	0.375" x 24 UNJF	AS52763	AS52793	34
WSIRT-43	726076	0.4375" x 20 UNJF	AS52764	AS52794	39
WSIRT-50	726072	0.500" x 20 UNJF	AS52765	AS52795	44
WSIRT-04	726077	MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSIRT-05	726073	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSIRT-06	726074	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSIRT-07	726075	MJ7 x 1.00"	EN3236-070	EN3237-070	27
WSIRT-08	726078	MJ8 x 1.00"	EN3236-080	EN3237-080	28
WSIRT-10	726079	MJ10 x 1.25"	EN3236-100	EN3237-100	33

Extraction Wrench

The extraction wrench removes the insert from the counterbore after the insert removal tool has removed the locking device.

THIS TOOL MUST NOT BE USED FOR INSERTION!



Product Code	Rolls-Royce ID No.	Internal Size of Thread Insert (Bolt Size)	Insert No. (Short)	Insert No. (Long)	Serrations
WSEXW-19	-	0.190" x 32 UNJF	AS52760	AS52790	20
WSEXW-25	-	0.250" x 28 UNJF	AS52761	AS52791	24
WSEXW-31	-	0.312" x 24 UNJF	AS52762	AS52792	29
WSEXW-37	-	0.375" x 24 UNJF	AS52763	AS52793	34
WSEXW-43	-	0.4375" x 20 UNJF	AS52764	AS52794	39
WSEXW-50	-	0.500" x 20 UNJF	AS52765	AS52795	44
WSEXW-04	739673	MJ4 x 0.70"	EN3236-040	EN3237-040	15
WSEXW-05	739675	MJ5 x 0.80"	EN3236-050	EN3237-050	18
WSEXW-06	739676	MJ6 x 1.00"	EN3236-060	EN3237-060	24
WSEXW-07	739677	MJ7 x 1.00"	EN3236-070	EN3237-070	27

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