

SPECIAL TOOLS FOR MARTIN-BAKER EJECTION SEATS

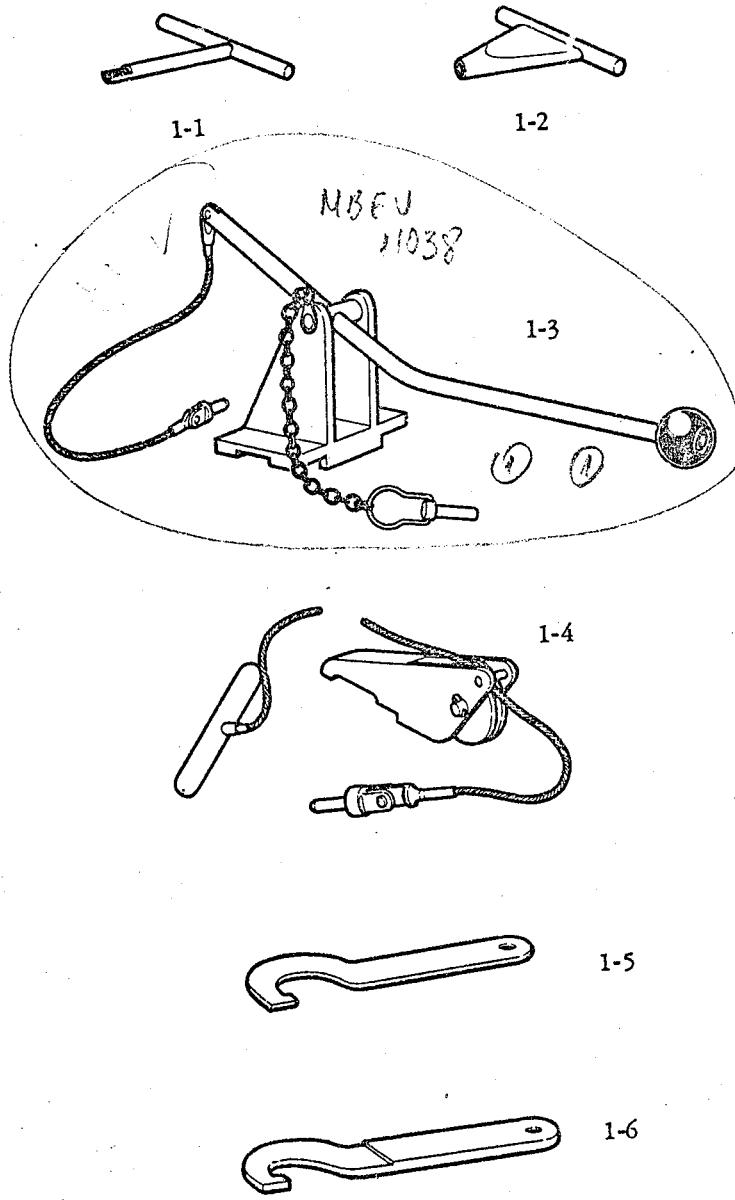
Many special tools are required to facilitate the servicing and overhaul of Martin-Baker ejection seats. This book will help in the selection and identity of the tools required. Reference should however be made to the appropriate manual for the tools required to service or overhaul a particular seat.

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SECTION 1

TOOLS FOR TIME-RELEASE UNITS



Item 1-1

Part No. A.3253. Harness release plunger tool.
Used to reset the harness release plunger on time-release units types 1, 3 and 4.

Item 1-2

Part No. A3254. Rack plunger tool
Used to reset the rack plunger on time-release units types 1, 3 and 4.

Item 1-3

Part No. B. 11038. Cocking tool for most seats.
B. 15920. Cocking tool for V4 and X4 seats.
B. 16630. Cocking tool for VRN4, VHK4 and VEN4 seats.
B. 20279. Cocking tool for VHP4, VAH4 seats.
B. 22924. Cocking tool for GF4 seats.
C. 866/GQ5 Cocking tool for DQ7 and GQ7 seats.

Used to reset or recock the harness release and rack plungers.

Item 1-4

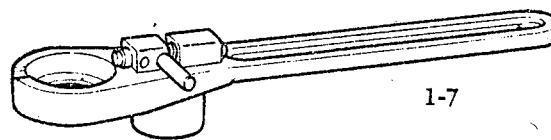
Part No. B.5468. Cocking tool for 4A and Mk. 4 French models.
Used to reset or recock the harness release and rack plungers.

Item 1-5

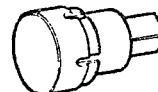
Part No. 0.10358. Spanner rack plunger cap.
Used to tighten or remove the buffer unit assembly.

Item 1-6

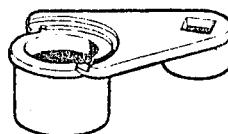
Part No. 0.10359. Spanner harness lock plunger cap.
Used to tighten or remove the rack plunger end cap.



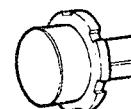
1-7



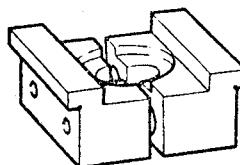
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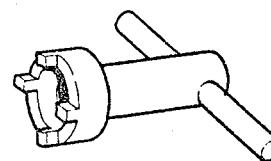
1-9



1-10



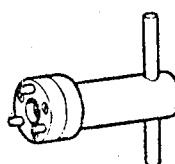
1-11A



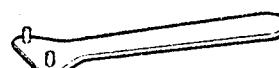
1-11B



1-12



1-13



1-14

Item 1-7

Part No. J.9630-A. Harness plunger ratchet spanner.

Used in conjunction with a torque wrench to tighten the buffer unit assembly.

Item 1-8

Part No. J.9630-B. Special Adaptor.

Used in conjunction with J.9630-A when setting the torque wrench.

Item 1-9

Part No. J.12068. Rack plunger torque adaptor.

Used in conjunction with a torque wrench to tighten the rack plunger end cap.

Item 1-10

Part No. J. 12068-A. Special adaptor.

Used in conjunction with J.12068 when setting the torque wrench.

Item 1-11

Part No. J.10259A and B. Special spanner buffer assembly.

Used to facilitate the assembly of the buffer unit. A is used to hold the end cap in a vice while Part B is used to tighten the buffer housing.

Item 1-12

Part No. J.9144. Clamping tongs.

Used to grip the barostat assembly to assist in removing and assembling.

Item 1-13

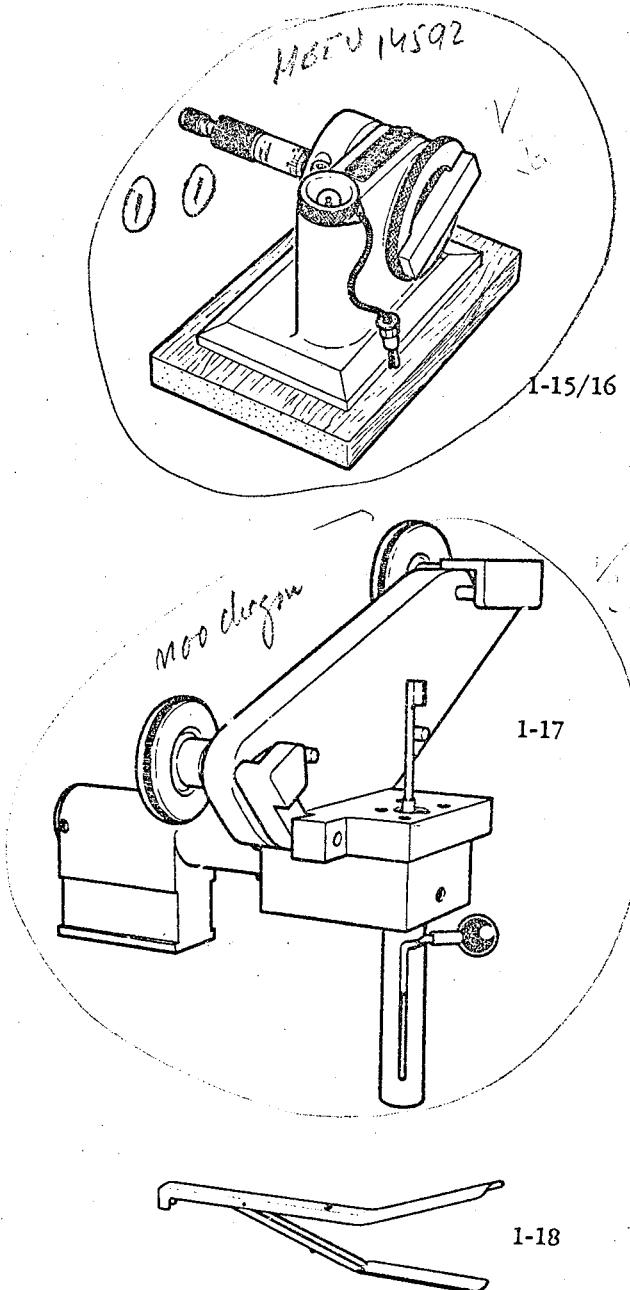
Part No. J.9145. Peg spanner.

Used to remove the barostat capsule stack.

Item 1-14

Part No. J.9146. Peg spanner.

Used to remove the barostat cap.



Item 1-15

C.14592. Barostat checking fixture 10,000 ft. complete comprising.
 C.14565. Barostat checking fixture and A.14596. 10,000 ft. chart.

Item 1-16

C.14704. Barostat checking fixture 5,000 m complete comprising.
 C.14565. Barostat checking fixture and A.15496. 5,000 m. chart.

Either item 1-15 or 1-16 is used when fitting the barostat capsule stack into the barostat container in order to ensure that the capsule stack is in its correct position relative to the cover of the container and according to the ambient barometric pressure.

The tester, in conjunction with the applicable chart fixed to the lid of the transit box, can also be used for testing the complete barostat assembly without recourse to a vacuum chamber.

A.3092 . chart. Used with items 1-15 and 1-16.

Item 1-17

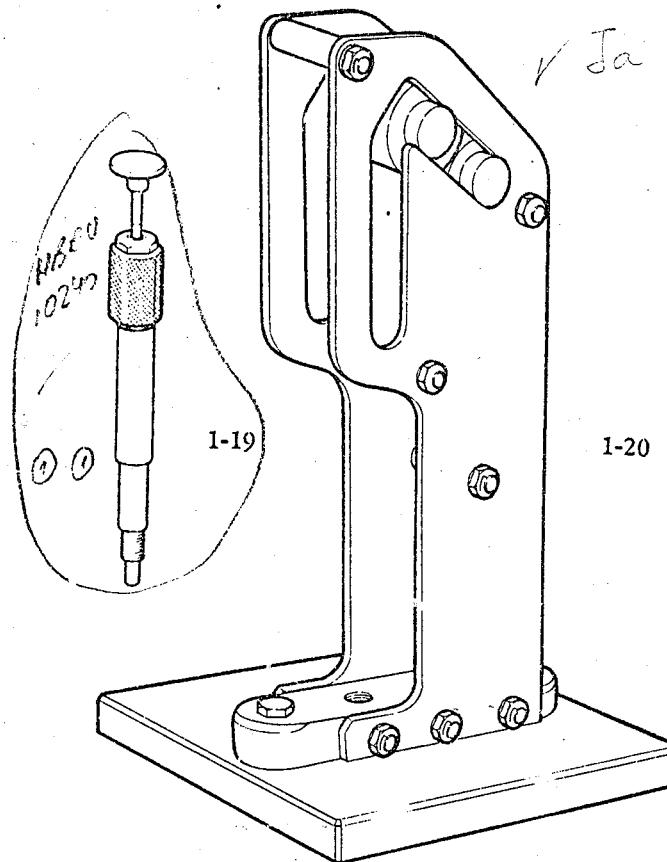
Part No. J.12033. Time-release unit jig.

Used to provide a substantial support for the barostatic time-release unit during stripping and assembly and also in conjunction with the tongs, Item 18, to provide a means for holding the gears and sear lever in their respective positions to allow the correct positioning of the cover plate. The jig permits the rotation of the time-release unit to facilitate servicing.

Item 1-18

Part No. J.9100. Special tool holding sear lever (tongs).

Used in conjunction with item 17 to facilitate reassembly of the time-release unit.



Item 1-19

Part No. A.10240. G-switch tester.

Used to check the correct functioning of the G-switch within its limits 3 to 4½ G.

Item 1-20

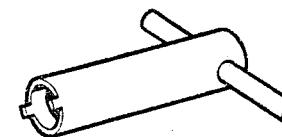
Part No. B.10380. Check weight gauge for G-switch tester.

Used to check that the G-switch tester, item 1-19 is registering correctly.

Item 1-21

Part No. A.18621. Tool for removing actuator nut.

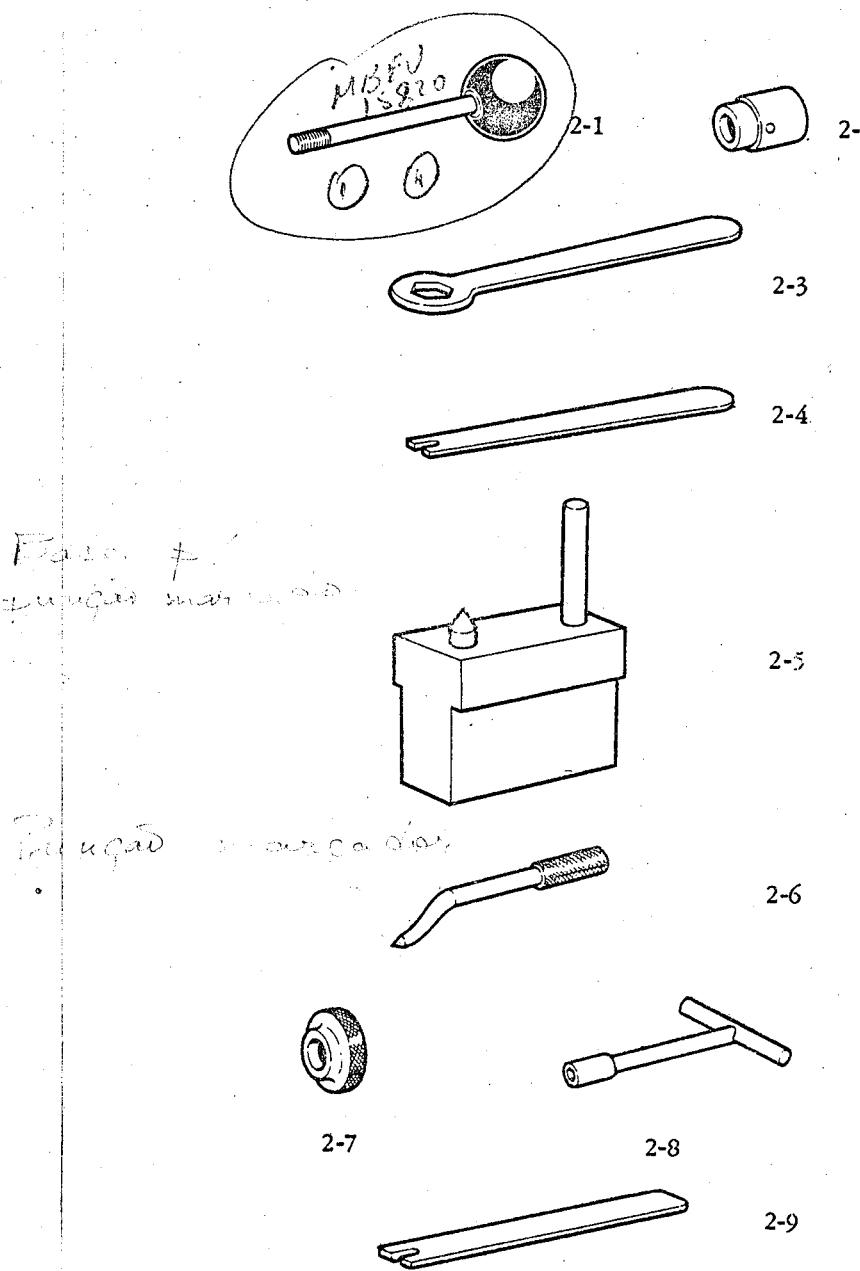
Used to remove and replace the nut retaining the secondary plunger spring on types 1,2 and 3 time-release units.



1-21

SECTION 2

TOOLS FOR DROGUE GUNS



Item 2-1

Part No. A.4341. Cocking tool 6.75 in. length
A.15820. Cocking tool 8.75 in. length
Used to cock the drogue gun.

Item 2-2

Part No. 0.3669. Protrusion gauge.
Used to check striker protrusion. Is also
used on all firing units.

Item 2-3

Part No. J.9091. Special $\frac{3}{8}$ in. B.S.F. spanner.
Used to remove the end cap.

Item 2-4

Part No. J.9092. Extractor tool.
Used to remove the locking plunger.

Item 2-5 and 2-6

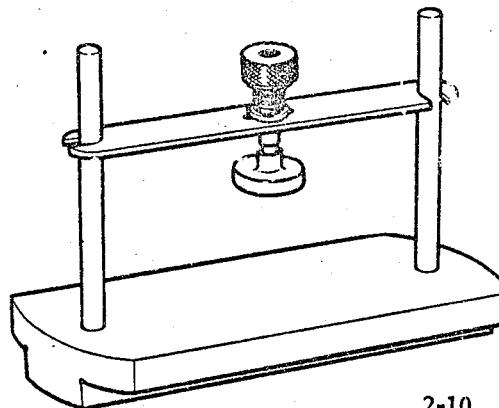
Part No. J.9087. Peening tool.
J.9088. Peening tool.
Used in fitting of new sear steady pins.

Item 2-7 and 2-8

Part No. J.9093. Locating tool.
J.9086. Special 2 B.A. Spanner.
Used to locate the shakeproof washer and
tighten the firing pin locating bolt on the drogue
gun body.

Item 2-9

Part No. J.9090. Locating tool.
Used to locate the primary gear when replacing
the cover plate.

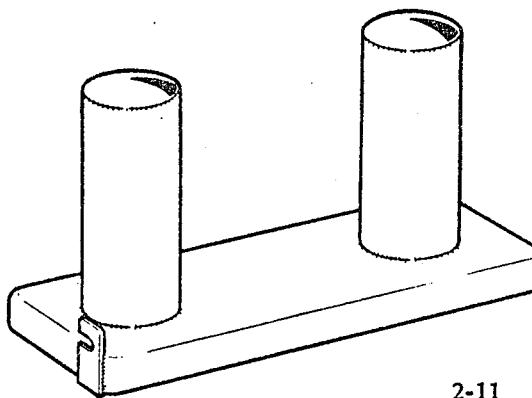


2-10

Item 2-10

Part No. J.13306. Assembly jig.

Used to hold the drogue gun during assembly.
The clamp is used to hold the cover in position
while the bolts are fitted.



2-11

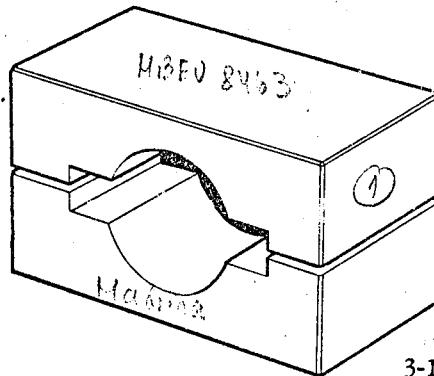
Item 2-11

Part No. B. 306. Static line winding jig.

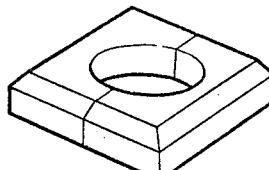
Used to wind the drogue gun static line prior
to packing on Mk. 1 ejection seats.

SECTION 3.

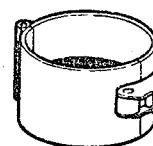
TOOLS FOR EJECTION GUNS



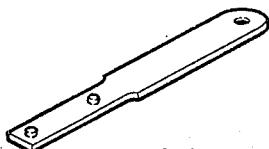
3-1



3-2/3



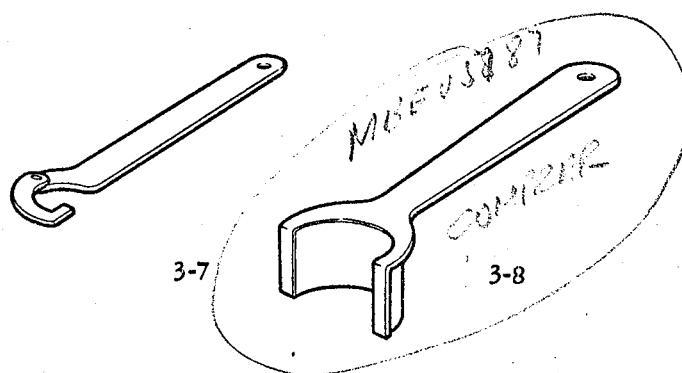
3-4



3-5



3-6



3-7

3-8

Item 3-1

Part No. A. 8463. Clamp blocks.

Used to prevent damage when securing ejection guns in a vice.

Item 3-2

Part No. A. 3965. Outer cylinder clamp.

J. 594. Outer cylinder clamp.

Used to prevent damage when securing type 1 and 2 ejection guns in a vice.

Item 3-3

Part No. A. 3966. Outer cylinder clamp.

A.3967. Outer cylinder clamp.

Used to prevent damage when securing type 3 ejection guns in a vice.

Item 3-4

Part No. A. 307. Clip for piston rings.

Used on ejection guns type 1 and 2 to hold the piston rings under compression during assembly of the piston tube to the cylinder tube.

Item 3-5

Part No. A. 3968. Spanner auxiliary breech cap.

For removing and replacing secondary cartridge caps.

Item 3-6

Part No. O. 1359. Spanner special inner piston.

Used to hold the cylinder head during stripping of ejection guns type 1, 2 and 3.

Item 3-7

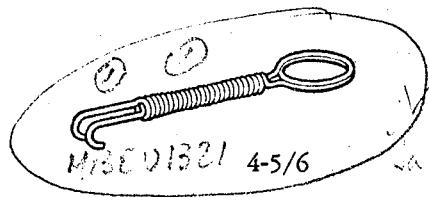
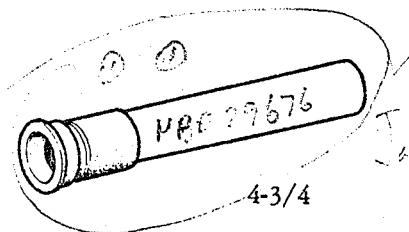
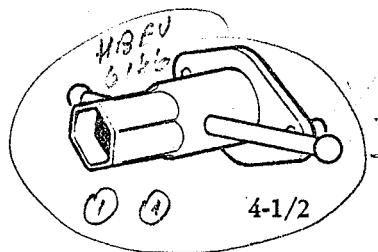
Part No. B. 18608. Spanner special locking ring.

Used when stripping and assembling type 1, 2 and 3 ejection guns.

Item 3-8

Part No. B. 5787. Spanner piston guide tube bush.

Used to remove and replace the piston guide tube.



SECTION 4

TOOLS FOR FIRING UNITS

Item 4-1 and 4-2

Part No. A. 6146. Spanner special cartridge.

Part No. A. 14670. Spanner special cartridge

(V4 and X4).

Used to remove and replace firing units and secondary cartridge caps.

Item 4-3 and 4-4

Part No. A. 5826. Cartridge extractor tool.

Part No. B. 29676. Cartridge extractor tool.

Used to lift out primary cartridges from their housings.

Part No. A. 5826 is shorter than B. 29676.

Item 4-5 and 4-6

Part No. O. 1321. Sear cocking tool.

Part No. O. 9320. Sear cocking tool.

Used to withdraw firing pins compressing the spring prior to insertion of the sear. Part No. O. 9320 has shorter hooks to facilitate insertion on certain firing units.

SECTION 5

TOOLS FOR PERSONAL EQUIPMENT CONNECTORS

Item 5-1 and 5-2

Part No. A.10479. Dust cover.
Part No. A.26911. Dust cover.

Used to prevent ingress of dust etc., into the seat portion of the P.E.C. when the aircraft portion is not fitted. A dust cover is provided with each seat to replace the man portion. Part No. A.24911 is suitable for use on those seats fitted with remote controlled, demand oxygen assembly Type 120.

Item 5-3 and 5-4

Part No. B.32942. Gauge top limit.
Part No. B.32941. Gauge bottom limit.

Used to replace the man portion or dust cover when testing and adjusting the harness release mechanism.

Item 5-5

Part No. J.12398. Valve seat extractor.
Used to fit and remove the oxygen valve.

Item 5-6

Part No. J.12399. Valve seat extractor.
Used to fit and remove the A.V.S. supply valve.

Item 5-7

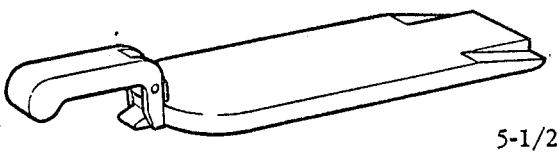
Part No. J.12400. Valve seat extractor.
Used to fit and remove the anti-G supply valve.

Item 5-8

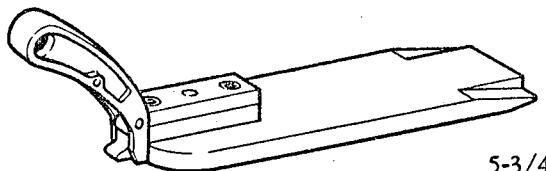
Part No. A.26938. Special 'C' spanner.
Used on the nut securing the Mic/tel lead.

Item 5-9

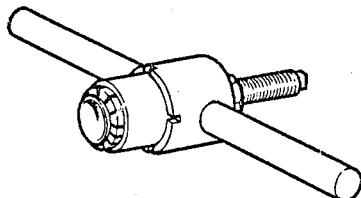
Part No. O.15766. Protective sheath.
Used to protect the man portion of the P.E.C. when not fitted to the seat portion.



5-1/2



5-3/4



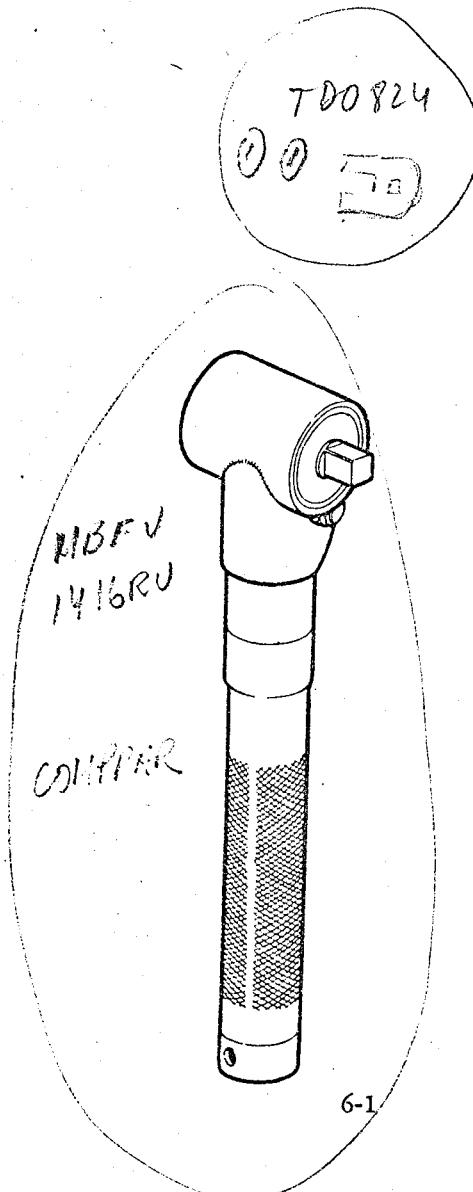
5-5/6/7



5-8



5-9



SECTION 6

TOOLS FOR ROCKET PACKS

Item 6-1

Part No. B. 1416-RU. Torque wrench.
For torque tightening of nozzles and end caps.

Item 6-2

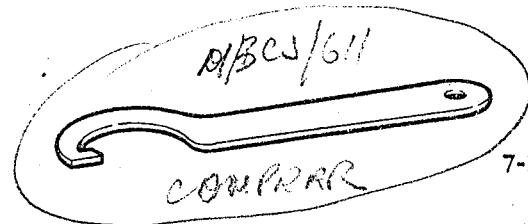
Part No. A. 1415-RU. Socket for rocket nozzle.
Used in conjunction with item 6-1 to tighten
the rocket efflux nozzles.

Item 6-3

Part No. A. 46-RU. Socket for rocket tubes.
Used in conjunction with item 6-1 to tighten
the end caps of the rocket tubes.

Item 6-4

Part No. A. 1433-RU. Initiator spanner.
Used for removal and replacement of the rocket
initiator.



7-1



7-2



7-3



7-4



7-5



7-6

SECTION 7

TOOLS FOR CANOPY JETTISON SYSTEMS

Item 7-1

Part No. O/MBCJ/611. Spanner canopy jettison locking ring.

Used on the locking ring of the bottom fitting of the canopy jettison jack.

Item 7-2

Part No. O. 10617. Spanner top cap canopy jettison

Used to remove the top cap of the Vulcan canopy jettison jack.

Item 7-3

Part No. A/MBCJ/368. Spanner locking ring hatch jettisoning jack.

Used on the locking of the Victor canopy jettisoning jack.

Item 7-4

Part No. A/MBCJ/129. Cocking tool canopy jettison.

Used to reset canopy jettison and time-delayed firing units.

Item 7-5

Part No. O/MBCJ/610. Spanner canopy jettison bypass valve locking ring.

Used on the locking ring of the bottom fitting of the bypass valve on Canberra PR9 and Victor aircraft.

Item 7-6

Part No. O/MBCJ/612. Spanner canopy jettison bypass valve locking ring.

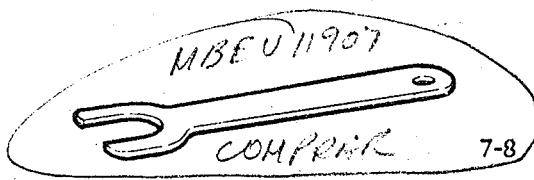
Used on most bypass valves.



7-7

Item 7-7

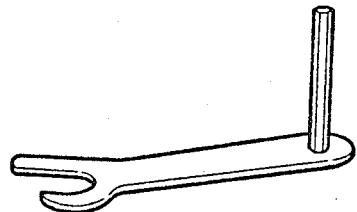
Part No. O/MBCJ/369. Spanner piston lock ring.
Used on the locking ring of the jettison jack.



7-8

Item 7-8

Part No. O.11907. Spanner single ended - canopy jettison firing body.
Used to fit and remove the jack body.



7-9

Item 7-9

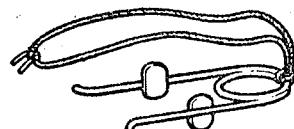
Part No. A/MBCJ/1038. Cocking tool.
Used to reset the control retraction mechanism on Victor aircraft.



7-10

Item 7-10

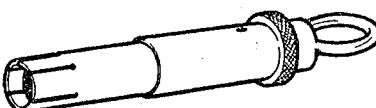
Part No. A. 18616. Spanner canopy jettison cartridge.
Removing the canopy jettison firing mechanism on Hunter, Javelin and Scimitar aircraft.



7-11

Item 7-11

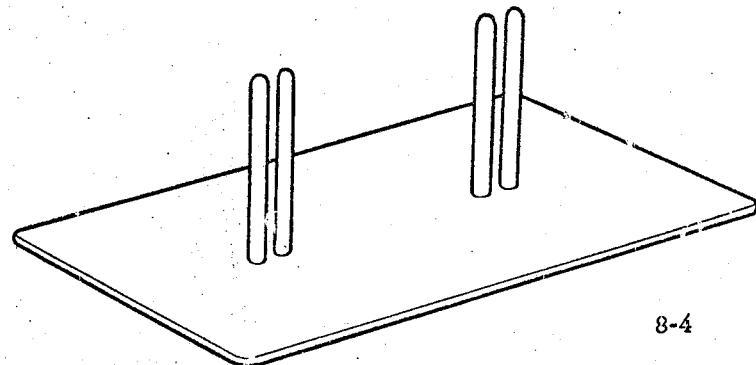
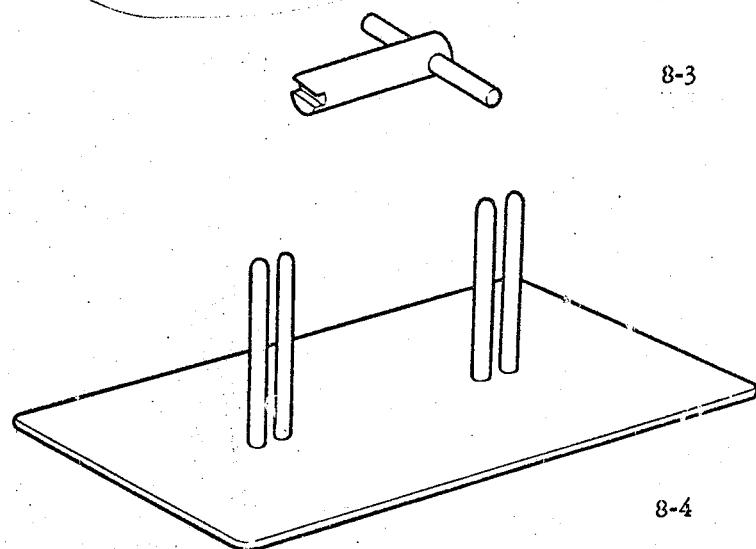
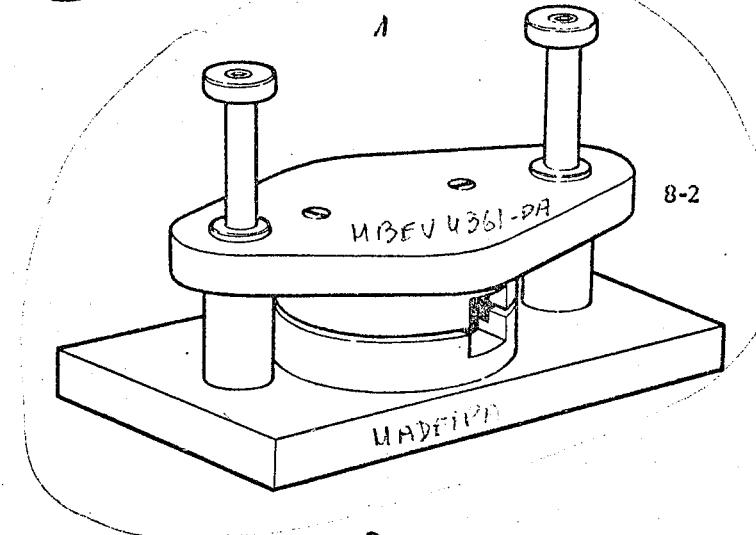
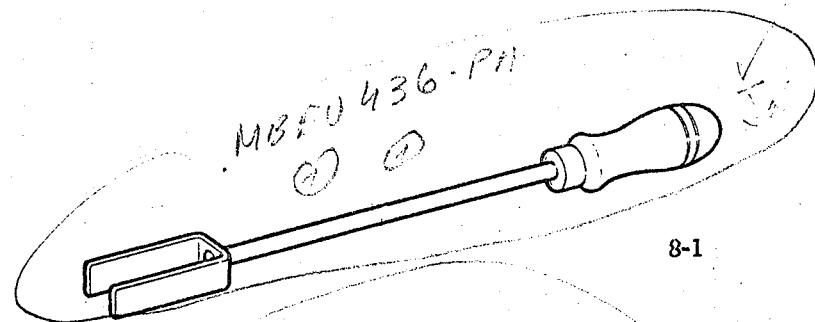
Part No. O/MBCJ/1503. Tool removing primary cartridge.
Used to remove the cartridge from the breech on the Buccaneer aircraft.



7-12

Item 7-12

Part No. A/MBCJ/1575. Cartridge Extractor.
Used to extract the cartridge from the canopy jettison and time-delay firing units of Victor aircraft. Also so useful to extract other cartridges, e.g. Guillotine cartridges on Mk. 5 seats.



SECTION 8.

TOOLS FOR PARACHUTES

Item 8-1

Part No. B. 4360-PA. Spring holding tool.
Used to hold the auxiliary parachute coil
spring in compression to facilitate packing.

Item 8-2

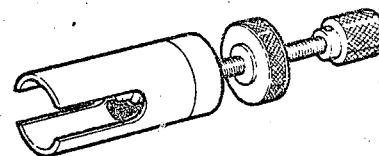
Part No. C. 4361-PA. Spring compressor fixture.
Used to compress the auxiliary parachute
coil spring prior to using item 8-1.

Item 8-3

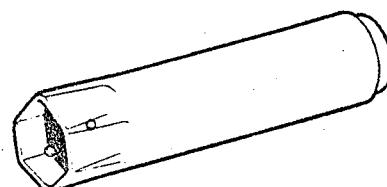
Part No. A. 5467-PA. Special tool.
Used to tighten the nuts securing the stowage
trays in some rigid type parachute packs.

Item 8-4

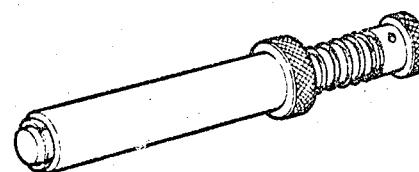
Part No. J. 14252. Shroud line tool.
Used to separate the shroud lines to facilitate
checking of lines during packing.



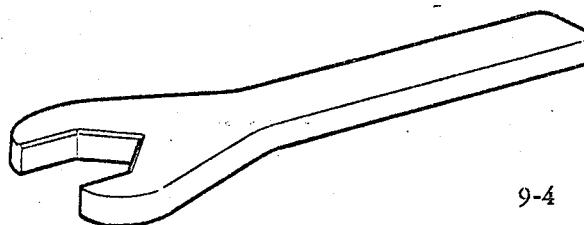
9-1



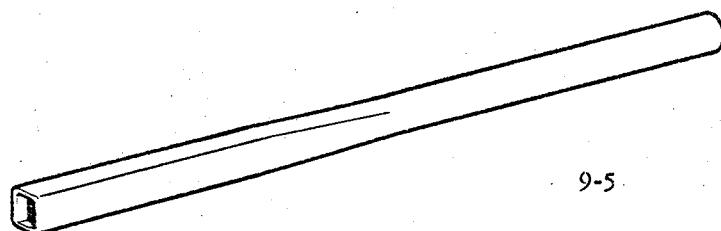
9-2



9-3



9-4



9-5

SECTION 9

TOOLS FOR UNDERWATER SYSTEMS

Item 9-1

Part No. B. 712-UW. Cocking tool.
Used to lift and cock the firing pin in the hydrostatic head.

Item 9-2

Part No. A. 711-UW. Torque spanner adaptor.
Used in conjunction with a torque wrench to fit the internal firing unit in the hydrostatic head.

Item 9-3

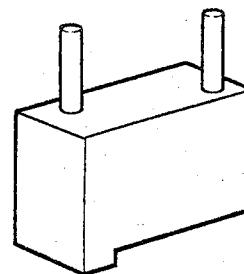
Part No. B. 710-UW. Cartridge extractor tool.
Used to fit and remove the cartridge from the internal firing unit of the hydrostatic head.

Item 9-4

Part No. B. 780-UW. Spanner main air bottle.
Fitting and removal of the main air bottle to the hydrostatic head.

Item 9-5

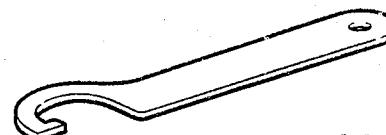
Part No. A. 791-UW. Handle for spanner.
Extension handle for use with item 9-4.



9-6/7

Item 9-6 and 9-7

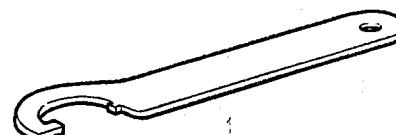
Part No. A. 792-UW, Clamp block-port.
A. 793-UW, Clamp block-starboard.
Used to hold the hydrostatic head in a vice
prior to removal or fitting of the air bottle.



9-8

Item 9-8

Part No. A. 994-UW, Spanner for seal retaining
collar.
Used on the seal retaining collar on the main
air bottle of the Buccaneer underwater system.



9-9

Item 9-9

Part No. A. 993-UW, Spanner for retaining collar.
Used on the pressure seal retainer of the
charging and release valve of main air bottle.

SECTION 10

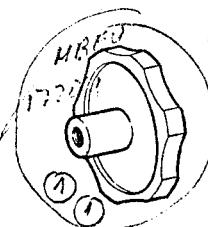
MISCELLANEOUS TOOLS



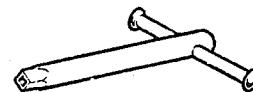
10-1



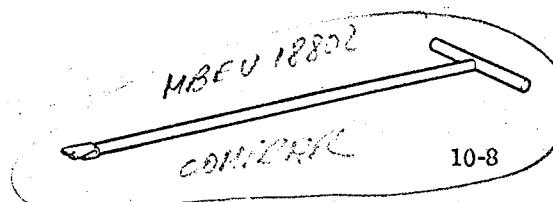
10-2/3



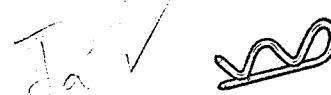
10-4/5/6



10-7



10-8



10-9

Item 10-1

Part No. O. 13935. Special release tool.

Used to release the top latch on type 1, 2 and 3 ejection seats.

Item 10-2 and 10-3

Part No. O. 494S/V. Tommy bar-top latch complete with chain

Part No. O. 16097. Tommy bar-top latch-ejection seats type 4A series, V4 and X4.

Use to turn the knurled nut of top latches.

Item 10-4, 10-5 and 10-6

Part No. A. 17204. Hand wheel 1.25 in. length.

Part No. A. 26568. Hand wheel 1.75 in. length - DQ7

Part No. A. 40031. Hand wheel Mk. 8 and 9 seats

Used to operate the top latch.

Item 10-7

Part No. A. 1361. Spanner box-harness release.

Used to hold the pulley and spring under tension to facilitate the removal and refitting of the harness release cable on twin reel type mechanisms.

Item 10-8

Part No. A. 18802. Special tool

Used to facilitate the insertion of the 40G webbing lug into the top harness lock.

Item 10-9

Part No. A. 28988. Wire pin 40G harness mechanism.

Used to hold the 40G webbing reel under tension to facilitate removal of the 40G webbing on seats suitably modified.

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