

CHAPTER 43

CLEANING INSTRUCTIONS – FIELD ARTILLERY

- 43.1 This chapter provides basic and specific cleaning requirements for selected vehicles. Where there is a specific requirement or need to highlight particular problem areas detailed cleaning guides are provided as tables and figures in this chapter.
- 43.2 Field artillery does appear to be quite innocuous but they are complex pieces of machinery. While all contamination and BRM must be removed, the main areas of concern are:
- a. external areas;
 - b. suspension;
 - c. trunnion group or working areas;
 - d. drawbar;
 - e. tarpaulins;
 - f. camouflage nets; and
 - g. tyres (new, old and spares).
- 43.3 All points are not specific to all field artillery.

SECTION 43-1 L119 105MM HAMEL LIGHT GUN

External Areas

- 43.4 The cleaning instructions for the L119 105mm Hamel Light Gun, illustrated in Figures 43-1 and 43-2, include the points detailed in Table 43-1.



Figure 43-1: L119 105mm Hamel Light Gun



Figure 43–2: L119 105mm Hamel Light Gun’s Barrel

Table 43–1: Cleaning Instructions for the L119 105mm Hamel Light Gun

Serial	Comments or Tasks	Technical Time (hours)
1	Remove canopies and bows (if applicable) and clean with high-pressure water.	
2	Remove stands and clean with high-pressure water.	
3	Ensure all ledges and recesses are cleaned with high-pressure water.	
4	Ensure underside is cleaned with high-pressure water, paying attention to areas that form cavities and lips.	

Suspension

43.5 The specific cleaning instructions for the L119 105mm Hamel Light Gun’s suspension include those points detailed in Figure 43–3 and Table 43–2.



Figure 43–3: L119 105mm Hamel Light Gun’s Suspension

Table 43–2: Cleaning Instructions for the L119 105mm Hamel Light Gun's Suspension

<i>Serial</i>	<i>Comments or Tasks</i>	<i>Technical Time (hours)</i>
1	Ensure suspension rocker beam mounts on chassis are clean and free of soil, plant and insect material.	
2	Mud and other debris collect in the spring seat, where the spring is mounted to the axle assembly, and are difficult to remove from the base of the springs. Ensure that this area is cleaned well.	
3	Mud and other debris collect in the inside area on the inner side of the wheel. Ensure that this area is cleaned well.	
4	Ensure axles and mounts on chassis are clean and free of soil, plant and insect material.	

Trunnion Group

- 43.6 The specific cleaning instructions for the L119 105mm Hamel Light Gun's Trunnion Group, include those points detailed in Figures 43–4 to 43–6, and Table 43–3.

EXTREME CAUTION
COMPONENTS UNDER TENSION/COMPRESSION

All items on an artillery piece clearly painted in **RED** are extremely sensitive components – Under no circumstances are these items to be interfered with or any maintenance to be conducted unless by a qualified technician.



Figure 43–4: L119 105mm Hamel Light Gun's Trunnion Group

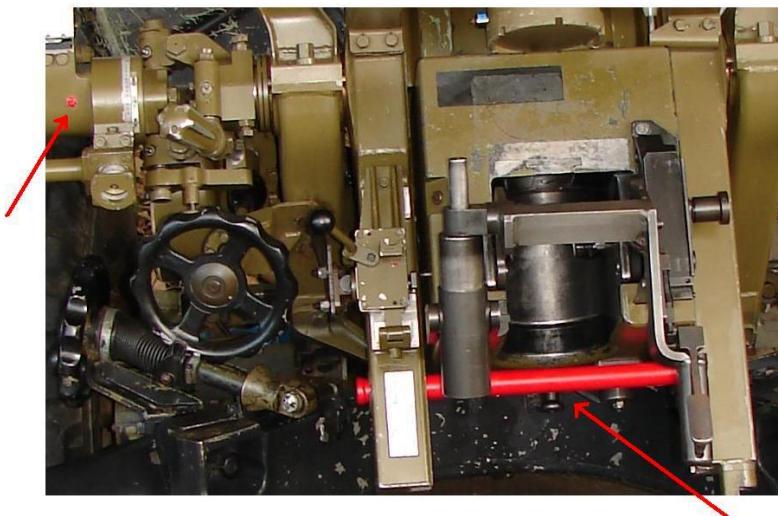


Figure 43–5: Example of Red Paint Warning on a L119 105mm Hamel Light Gun’s Trunnion Group

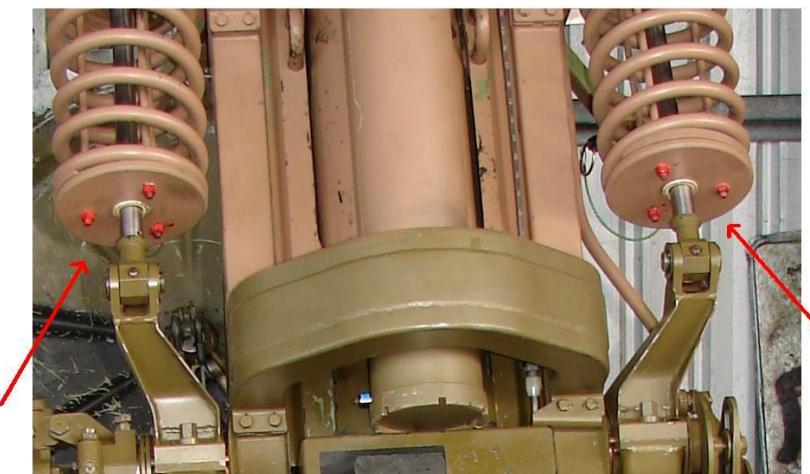


Figure 43–6: Example of Red Paint Warning on a L119 105mm Hamel Light Gun’s Recoil Springs

Table 43–3: Cleaning Instructions for the L119 105mm Hamel Light Gun’s Trunnion Group

Serial	Comments or Tasks	Technical Time (hours)
1	Ensure suspension rocker beam mounts on chassis are clean and free of soil, plant and insect material.	
2	All items on an artillery piece clearly painted in RED are extremely sensitive components – Under no circumstances are these items to be interfered with or any maintenance to be conducted unless by a qualified technician.	
3	All other areas of the trunnion group can be cleaned by hand wiping.	

Drawbar

43.7 The cleaning instructions for the L119 105mm Hamel Light Gun’s drawbar include those points detailed in Figure 43–7 and Table 43–4.



Figure 43-9: L119 105mm Hamel Light Gun Draw Bar

Table 43-4: Cleaning Instructions for Under the Field Artillery's Draw bar

<i>Serial</i>	<i>Comments or Tasks</i>	<i>Technical Time (hours)</i>
1	High-pressure water clean around the fittings using a flexible nozzle as is necessary to get into all areas.	
2	The swivel points on the drawbar are to be cleaned using a high-pressure water cleaner.	
3	The drawbar is to be inspected for drain holes and flushed through.	
4	All underside hollow members are to be subject to high-pressure water using a flexible nozzle to remove all soil, plant and insect matter.	
5	All grease and oil is to be removed to ensure freedom from BRM. Required areas may be re-greased or re-oiled after they have been inspected.	

SECTION 43-2 M198 155MM HOWITZER**External Areas**

- 43.8 The cleaning instructions for M198 155mm Howitzer, illustrated in Figures 43-8 to 43-11, include the points detailed in Table 43-5.



Figure 43-8: M198 155mm Howitzer



Figure 43–9: M198 155mm Howitzer Configured for towing



Figure 43–10: M198 155mm Howitzer

Table 43–5: Cleaning Instructions for the M198 155mm Howitzer

Serial	Comments or Tasks	Technical Time (hours)
1	Remove canopies and bows (if applicable) and clean with high-pressure water.	
2	Remove stands and clean with high-pressure water.	
3	Ensure all ledges and recesses are cleaned with high-pressure water.	
4	Ensure underside is cleaned with high-pressure water, paying attention	

<i>Serial</i>	<i>Comments or Tasks</i>	<i>Technical Time (hours)</i>
	to areas that form cavities and lips.	
	Tyres are to be cleaned as per Tyres (New, Old and Spares) under Section 43.3 below (refer Figures 43-X to	



Figure 43–11: M198 155mm Howitzer Field Artillery Guide Wheel

Suspension

43.9 The specific cleaning instructions for field artillery suspension include those points detailed in Figures 43–12 and Fig 43-7; and Table 43–6.



Figure 43–12: M198 155mm Howitzer Field Artillery Suspension



Figure 43–13: M198 155mm Howitzer Field Artillery Suspension

Table 43–6: Cleaning Instructions for the M198 155mm Howitzer’s Suspension

Serial	Comments or Tasks	Technical Time (hours)
1	Ensure suspension rocker beam mounts on chassis are clean and free of soil, plant and insect material.	
2	Mud and other debris collect in the spring seat, where the spring is mounted to the axle assembly, and are difficult to remove from the base of the springs. Ensure that this area is cleaned well.	
3	Mud and other debris collect in the inside area on the inner side of the wheel. Ensure that this area is cleaned well.	
4	Ensure axles and mounts on chassis are clean and free of soil, plant and insect material.	

Breech Group

- 43.10 The specific cleaning instructions for the M198 155mm Howitzer’s Breech Group, include those points detailed in Figures 43–14 to 43-16, and Table 43–7.

EXTREME CAUTION
COMPONENTS UNDER TENSION/COMPRESSION

All items on an artillery’s Breech area are extremely sensitive components – Under no circumstances are these items to be interfered with or any maintenance to be conducted unless by a qualified technician.

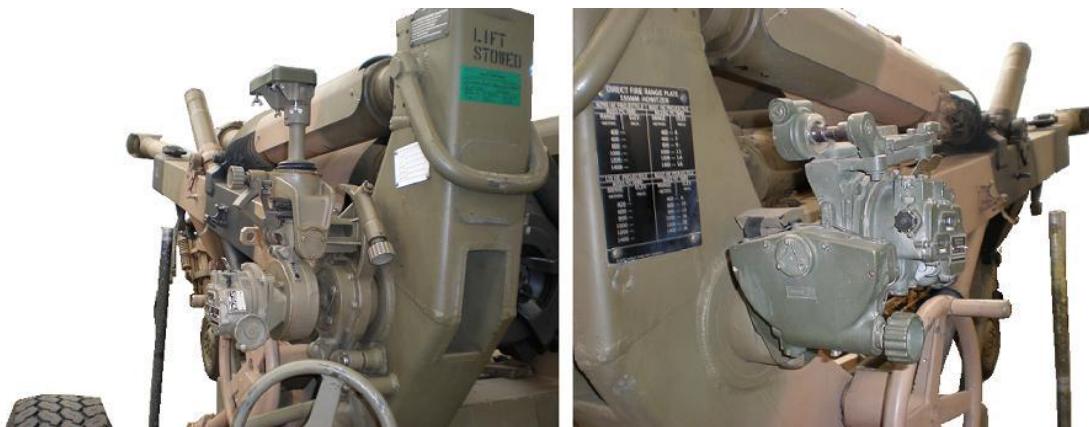


Figure 43–14: M198 155mm Howitzer's Gun Sight Mounts



Figure 43–15: M198 155mm Howitzer's Breech

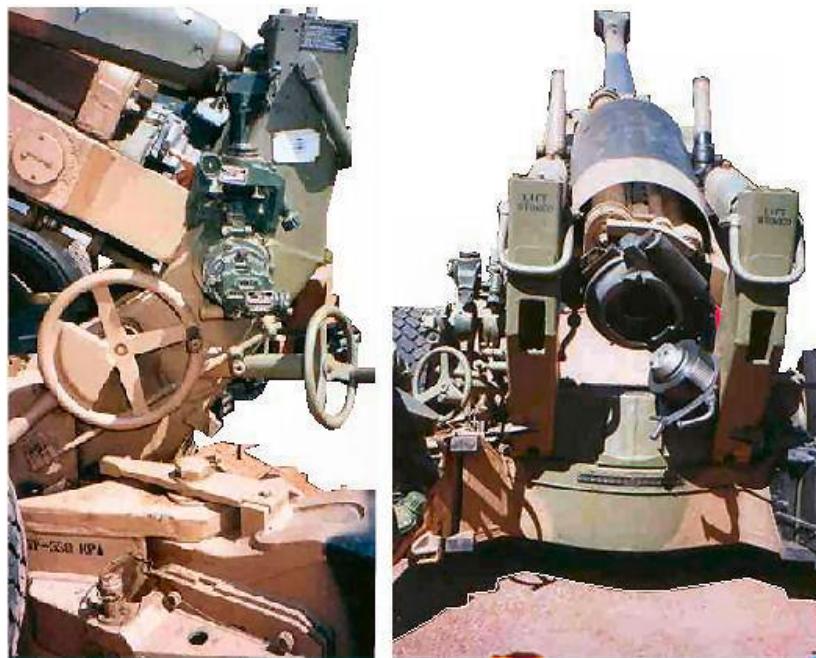


Figure 43–16: M198 155mm Howitzer Elevation Adjusters (Left) and Breech Area (Right)

Table 43–7: Cleaning Instructions for the M198 155mm Howitzer's Breech Group

<i>Serial</i>	<i>Comments or Tasks</i>	<i>Technical Time (hours)</i>
1	Ensure suspension rocker beam mounts on chassis are clean and free of soil, plant and insect material.	
2	All items on an artillery's Breech area are extremely sensitive components – Under no circumstances are these items to be interfered with or any maintenance to be conducted unless by a qualified technician.	
3	All other areas of the breech group can be cleaned by hand wiping.	

Drawbar

- 43.11 The cleaning instructions for a M198 155mm Howitzer's draw bar, include those points detailed in Figure 43–17, and Table 43–8.

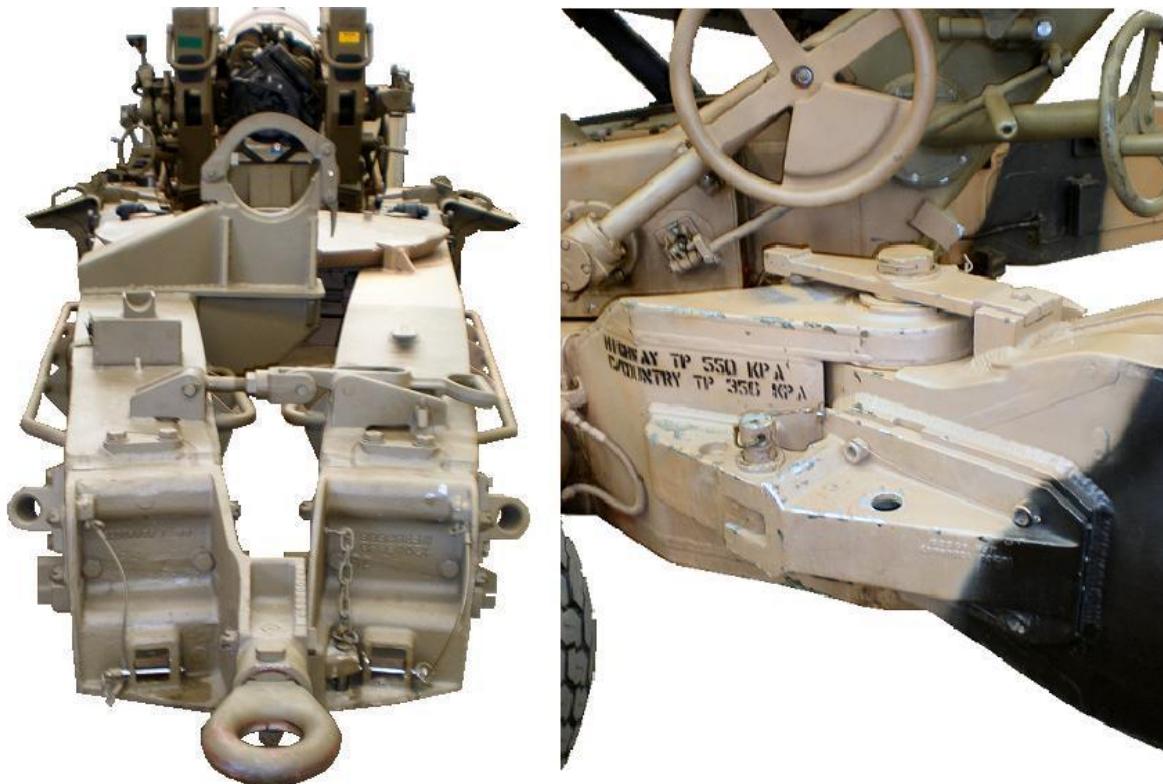


Figure 43–17: M198 155mm Howitzer's Draw Bar (Left) and Stabiliser Hinge Point (Right)

Table 43–8: Cleaning Instructions for Under the M198 155mm Howitzer's Draw bar

<i>Serial</i>	<i>Comments or Tasks</i>	<i>Technical Time (hours)</i>
1	High-pressure water clean around the fittings using a flexible nozzle as is necessary to get into all areas.	
2	The swivel points on the drawbar are to be cleaned using a high-pressure water cleaner.	
3	The drawbar is to be inspected for drain holes and flushed through.	
4	All underside hollow members are to be subject to	

<i>Serial</i>	<i>Comments or Tasks</i>	<i>Technical Time (hours)</i>
	high-pressure water using a flexible nozzle to remove all soil, plant and insect matter.	
5	All grease and oil is to be removed to ensure freedom from BRM. Required areas may be re-greased or re-oiled after they have been inspected.	

SECTION 43-3 COMMON EQUIPMENT

Tarpaulins

43.12 The cleaning instructions for the tarpaulins include the points detailed in Table 43-9.

Table 43-9: Cleaning Instructions for Tarpaulins

<i>Serial</i>	<i>Comments or Tasks</i>	<i>Technical Time (hours)</i>
1	All tarpaulins are to be given a brush down, brush scrubbing and hose cleaning, paying particular attention to the seam areas and then hung so as not to contact the ground for drying	
2	All ropes and universal dispatch straps are to be extended to their full length and wiped or washed clean of all soil, plant and insect matter Attention to attachment points and fixtures and tension devices is required Personnel are to inspect and remove all twigs, foliage, and so on that has become embedded in the rope fibres	
3	Velcro panels and seams (where fitted) are to be brushed and washed to ensure all seed, plant and soil material is removed	
4	Canvas bags are to be turned inside out and checked for burrs, seeds and insects;	
5	Where fitted, poles, knuckles and pegs are to be subject to a high-pressure water clean to remove all soil, plant and insect matter (ants, spiders and mud wasps are of particular concern)	
6	If tarpaulins have not been used during the entire deployment, then the requirement is for all tarpaulins to be unrolled, brushed and swept clean to ensure no vermin or insect infestation and then subject to an inspection	

Camouflage Nets

43.13 The cleaning instructions for camouflage nets include the points detailed in Table 43-10.

43-10: Cleaning Instructions for Camouflage Nets

<i>Serial</i>	<i>Comments or Tasks</i>	<i>Technical Time (hours)</i>
1	Removal of grass and debris may be achieved by use of a petrol powered blower/vacuum in the first instance, use of water should be avoided	

<i>Serial</i>	<i>Comments or Tasks</i>	<i>Technical Time (hours)</i>
2	Heavily soiled camouflage nets may require further scrubbing and a dip in an approved detergent/ disinfectant (one in 20 solution). This has been achieved in the past by using trailers with required additive.	
3	Depending on the degree of contamination and diligence in the cleaning process, camouflage nets may require three or more trailer dips to achieve the required DA clearance.	
4	Drying is to be achieved by hanging the camouflage net so that it does not come into contact with the ground.	
5	Nets are to be inspected to ensure that all plant material is removed.	
6	Camouflage poles are to be brushed or swept clean; and metal joiners are to be removed, cleaned and inspected.	

Tyres (New, Old and Spares)

43.14 The cleaning instructions for Tyres (New, Old and Spares) include the points detailed in Table 43-11.

43-11: Cleaning Instructions for Tyres (New, Old and Spares)

<i>Serial</i>	<i>Comments or Tasks</i>	<i>Technical Time (hours)</i>
1	All tyres are to be washed and scrubbed to remove all BRM.	
2	Damaged tyres are to be inspected and their suitability for return to Australia determined. If necessary, damaged tyres (for example, perished, cracked or split) are to be removed and disposed of in accordance with the tyre disposal policy.	
3	Cracked tyres have the risk of containing BRM therefore perished tyres are to be subject to disposal.	
4	All tyres are to be treated with an approved residual insecticide after cleaning.	
5	Fitted tyres that are damaged should be replaced with new tyres.	
6	Used and fitted tyres on rims are to be individually verified that the tyres are on rims, inflated with beading sealed and that the tyres are clean, free of water and other BRM.	
7	Tyres that are not fitted to rims are to be stored in such a manner that water cannot collect inside the tyre. The preferred DA solution is that tyres are stored within containers. Tyres not fitted on rims will require fumigation on return to Australia.	
8	DA considers a Non-Commercial consignment of tyres to contain a maximum of 8 tyres (inclusive of the wheels on the vehicle) and be imported with an accompanying vehicle. If tyres are to be transported back to Australia in containers or crates, please refer to the DA BICON (Biosecurity Import Conditions system) internet site (http://www.agriculture.gov.au/import/online-services/bicon) for the commodity "tyres".	