Melvelle Equipment Corp Pty Ltd

"Proud Australian Manufacturers"

FP-190-HH – HAND HELD E-CLIP INSTALLER/REMOVER

Melvelle Equipment Corp Pty Ltd

Address: 10 Rogilla Close
MARYLAND NSW 2287
AUSTRALIA

Phone: 61 2 49 515 224
Fax: 61 2 49 501 291
Email: sales@melvelle.com.au
Web: www.melvele.com.au

Notes:

P: +61 2 4951 5244 F: +61 2 4950 1291

E: sales@melvelle.com.au W: www.melvelle.com.au

MEC Part Number: MANUAL-190-HH

Document Edition: 1.3

Updated Date: 7TH Aug 2020

Table of Contents

1. Preface

Every attempt has been made to present accurate and current information within this manual. However, as product development of the Clipper and components used within is continuous, the information contained herein may be subject to change without notice, and without incurring obligation.

The information provided within this manual is the sole property of Melvelle Equipment Corporation Pty Ltd (MEC) and as such, reproduction or replication of any material contained within is not allowed without the written consent of MEC.

Information provided within this manual assumes:

- The person(s) operating the machinery have read and understand this manual and other manuals provided for specific components
- The person(s) operating are properly trained and equipped to safely and professionally operate this machinery
- The person(s) operating utilise the correct attachments and/or tools, and are trained and equipped to use them safely and professionally

INSPECTING AND SERVICING THE FP-190-HH CLIPPER

This manual contains safety, operation and periodic inspection/servicing instructions. MEC specifies that inspecting/servicing the equipment, other than "before use" inspections, must be performed by MEC or a certified and authorised dealer. Please read the following warning.

SERIOUS INJURY OR DEATH COULD RESULT FROM THE IMPROPER REPAIR OR SERVICE OF THIS EQUIPMENT.

REPAIRS AND / OR SERVICE OF THIS EQUIPMENT MUST ONLY BE PERFORMED BY MELVELLE EQUIPMENT CORP. PTY LTD. OR CERTIFIED AND AUTHORISED DEALER.

THE USER SHALL NOT MODIFY THE DESIGN OR CONFIGURATION OF EQUIPMENT WITHOUT CONSULTING MEC

2. Safety Information

This operation and training manual is intended to complement existing site procedures.

The following site documentation must be reviewed by the trainee before commencing training:

- Safe Work Procedures (SWP)
- Isolation Procedures

If the training package information conflicts with existing site documentation, then the authorised site and/or end user is to consult with MEC in regards to any possible amendments or modifications required.

The following practices and procedures must be adhered to:

- Always complete Pre-Operation Checks prior to use and report any defects if found
- Only connect equipment with compatible MEC equipment
- Only operate the equipment for its intended purpose
- Never operate with guards missing or damaged
- The minimum PPE requirements outlined in this manual shall be adhered to in conjunction with site specific requirements. If there is a conflict, consult MEC.
- Ensure Isolation Procedures are followed prior to carrying out any maintenance
- If any faults or damage to this machine are found during pre-operation checks or operation, tag the machine “Out-of-Service” and follow site procedures

Following the above mentioned and the information contained within this manual will ensure safe, efficient operation of the equipment.

3. Safety Symbols

The safety symbols and signal words, as shown below, are used to emphasise all operator, maintenance and repair actions which, if not strictly followed, could result in a life-threatening situation, bodily injury or damage to the equipment.

3.1. Safety Symbols & Signal Words

	**This safety alert and signal word indicates a hazardous situation which, if not avoided, will result in death or serious injury.**
	**This safety alert and signal word indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**
	**This safety alert and signal word indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.**
	**This signal word indicates a potentially hazardous situation which, if not avoided, may result in property damage.**
	**This signal word indicates a situation which, if not avoided, will result in damage to the equipment.**
	**This signal word indicates a situation which, if not avoided, may result in damage to the equipment.**

3.2. Hazard Warning Signs

	**This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all instructions to avoid possible injury or death.**
	**This is the fire risk symbol. It is used to alert you to the potential of a fire starting if ignition sources are present.**
	**This is the explosive risk symbols. It is used to alert you to the potential of an explosion /explosive substances present.**
	**This is the toxic hazard symbol. It is used to alert you to the presence of toxic substances.**
	**This is the corrosive risk symbol. It is used to alert you to the presence of corrosive substances.**
	**This is the electric shock risk symbols. It is used to alert you to the presence of an electrical supply.**
	**This is the battery symbol. It is used to alert you to the potential hazard of electrical supply, battery acid and leaking batteries.**

	**This is the hot surface symbol. It is used to alert you that the surfaces may be hot.**
	**This is the dangerous gases symbol. It is used to alert you to the presence of dangerous gases.**
	**This is the fluid under pressure symbol. It is used to alert you that there are fluids under pressure in this machinery.**
	**This is the sharp edges symbol. It is used to alert you to the presence of sharp edges or cutting hazard.**
	**This is the keep hands clear symbol. It is used to warn you to keep hands clear as there are pinch points present.**
	**This is the rotating parts symbols. It is used to warn you of rotating parts on the machinery. Keep clear of rotating parts.**

3.3. Personal Protection Symbols

	**This is the eye protection symbol. It is used when eye protection must be worn.**
	**This is the hearing protection symbol. It is used when hearing protection must be worn.**
	**This is the head protection symbol. It is used when head protection must be worn.**
	**This is the hand protection symbol. It is used when hand protection must be worn.**
	**This is the foot protection symbol. It is used when feet protection must be worn.**
	**This is the protective body clothing symbol. It is used when protective clothing must be worn.**

	**This is the face protection symbol. It is used when face protection must be worn.**
	**This is the long hair protection symbol. It is used when long hair is required to be contained or restrained.**

3.4. Prohibition Symbols

	**This is the naked flame symbol. It is used when there is not to be a fire, naked flame, ignition sources and smoking nearby.**

4. Safety Precautions

To ensure safe operation, please read and understand the following statements and their meanings. Also refer to supporting manuals from the engine manufacturer on specific operation and maintenance of the engine. This manual contains safety precautions which are outlined below.

Ensure all personnel operating this equipment are properly trained to ensure safe operation

Wear personal protective equipment around this machinery.
Minimum requirements: safety glasses, hearing protection, protective clothing and safety shoes at all times.

Hot parts can cause severe burns.
Motors and batteries can get hot during extensive use

Clamping parts can cause severe injury.
Avoid unnecessary contact with the clipper whilst it is in operation.

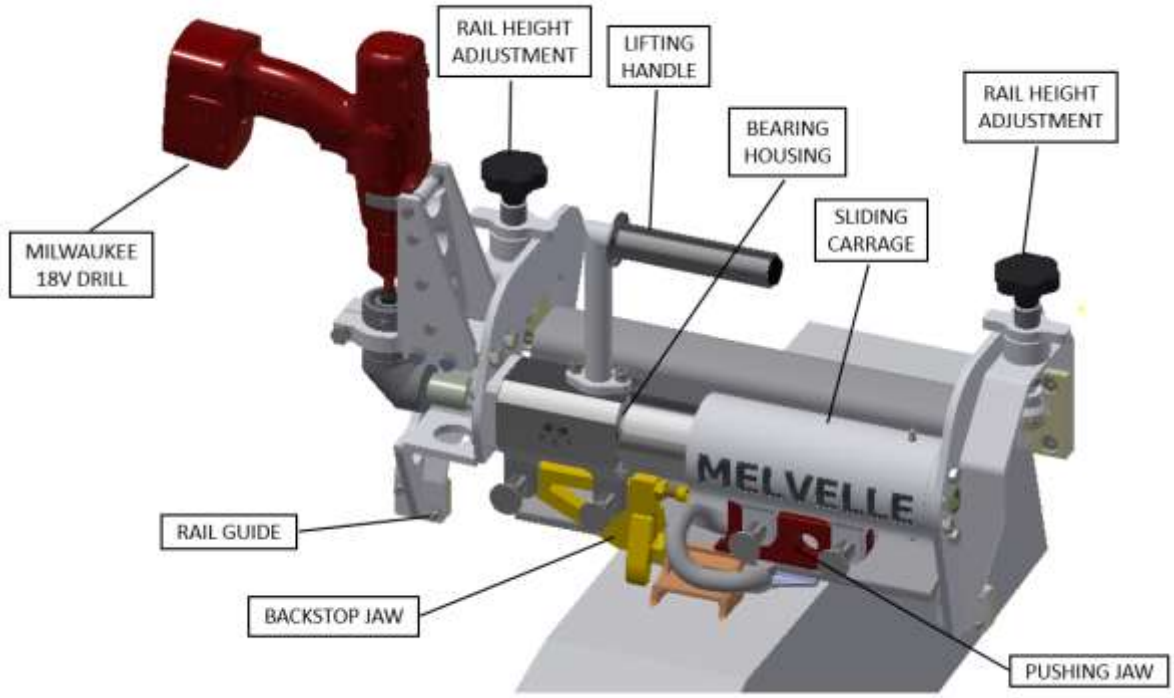
Loose hair, clothing and jewellery can cause severe injury.
Ensure hair is restrained; loose clothing not to be worn and jewellery must be removed before operating the machinery.

	
	
Injury can occur through incorrect operation of the equipment. Only operate the equipment for its intended use. Failure to do so may result in injury.	**Noise Hazard.** Ensure adequate hearing protection is worn whilst using this machinery.

5. Introduction

Melvelle Equipment Corp Pty Ltd (MEC) has developed a lightweight, hand-held battery powered machine to install and remove Pandrol E-clips. By using Milwaukee tried and tested drill with overload protection, high torque and therefore force can be developed to push clips in, even in tough conditions. By using lightweight materials such as 7075 aluminium, as well as a design that reacts all forces from the rail, the machine can clip without the operator needing to apply any effort.

The innovative design eliminates the need for an operator to apply high force to a pan bar while standing on unsteady ballast, as well as stops operators overdriving clips, which reduces the toe load on the clip. This machine is ideally suited to small output gangs on shutdowns and spot work.



6. Specifications

6.1. FP-190-HH – Hand Held E-clipper

Stroke	107mm
Clipping force	4T
Weight in operation	14kg
Weight without jaws	13kg
Time per clip (dependent on condition)	5-30 seconds
Sleepers per minute. Dependent on conditions and operator. (Both sides of rail and both clips).	1 complete sleepers
Drill	Milwaukee 18V cordless Hammer Drill Gen 3
Rail size capacity	41-68kg
Battery	Any Milwaukee 18V battery

7. Operation

Before use of the equipment, be aware of the operating environment and conditions for which the equipment is to be used. Ensure all users are trained to operate the machinery before operation.

7.1. Operating Conditions

The following outlines the conditions under which the equipment is intended to be operated:

- Used to install and remove Pandrol E-clips only.
- Used only when set up correctly for the rail size, as per section 7.4 below.
- Used only for the sleeper with the correct jaws as per section 7.3 below.
- Not to be operated for longer than 5 seconds per clip without machine movement. Impact wrenches can develop large amounts of torque with time and will damage the machine/ clip.
- Used within a track possession

7.2. Pre-Operation Checks

Rail Guides

1. Ensure guides and pads are fitted and not damaged. If damage is found, replace before use.

Rail height adjustment

1. Ensure the height adjustment threaded pins are free to move and can be locked off.

Jaw Pins

1. Ensure the jaws can be easily removed and fitted. The retaining pins should easily slide and move.

Impact wrench mount

1. Ensure the impact wrench mount is free from damage and the impact wrench connects easily without excessive movement. Replace if damaged.

Screw and internal keys

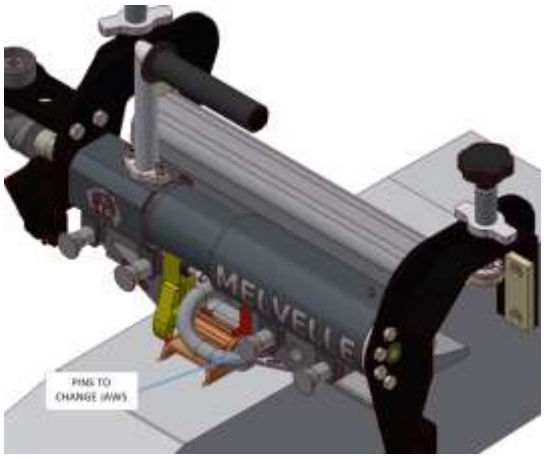
1. Ensure the screw and internal keys are greased for operation.

Various fasteners

1. Ensure all components are tight and secured.

7.3. Machine set-up – Jaw selection

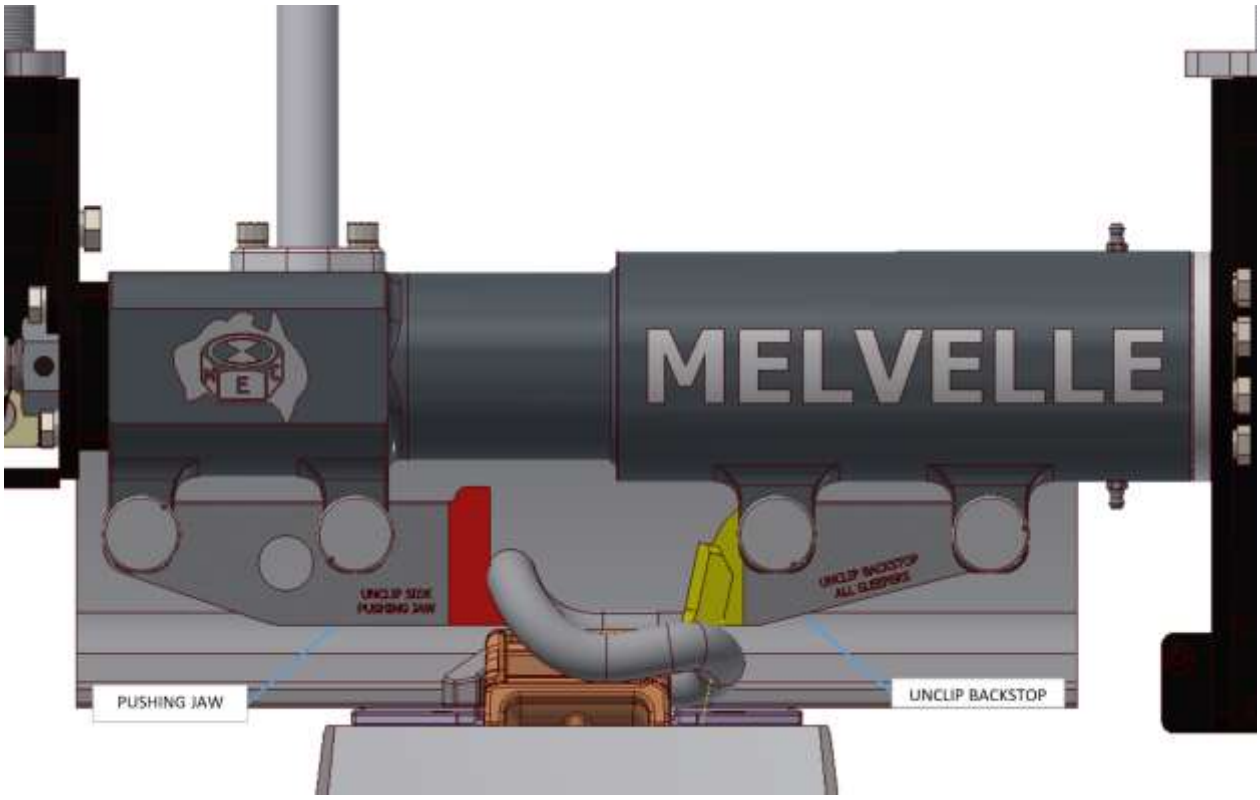
1. The FP-190-HH clipper uses interchangeable jaws to accommodate different sleeper plates and styles. They are clearly marked with their corresponding plates and one jaw may have various uses. The different jaws account for varying plate length as well as the differences between timber and concrete ties.



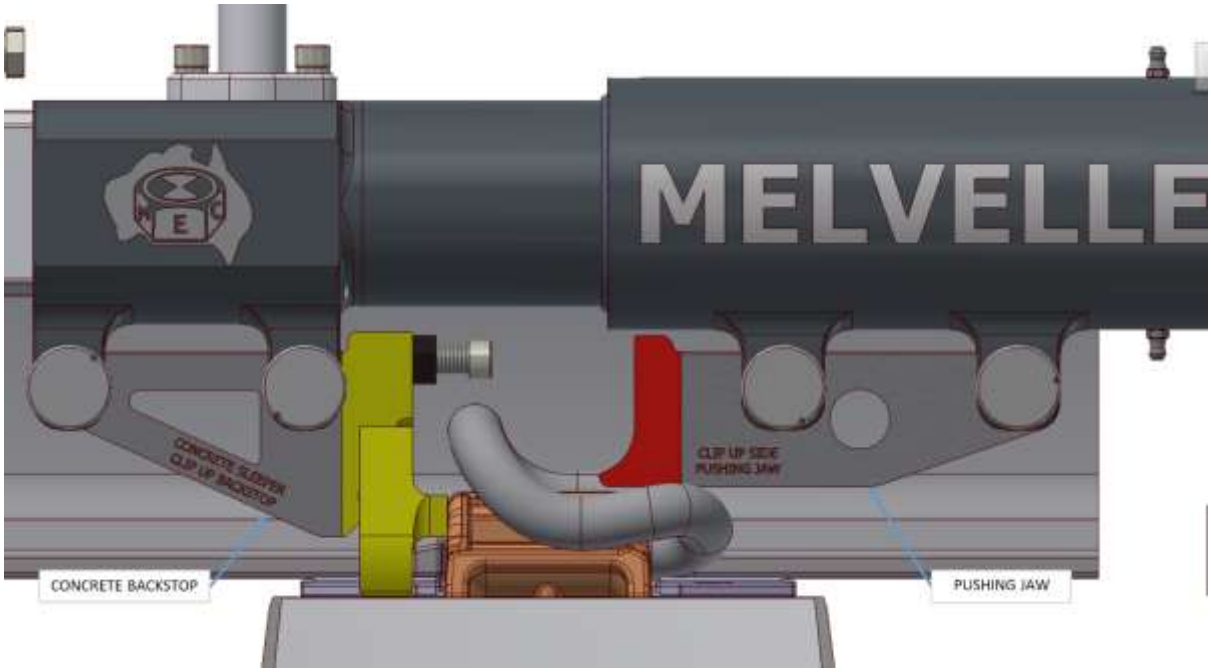
2. ***Ensure the correct jaws are fitted for the sleeper in question. The jaws should always have the engraved text for the operation in question facing outwards.***

   The machine should always be fitted with a yellow backstop and a red pushing jaw during operation.

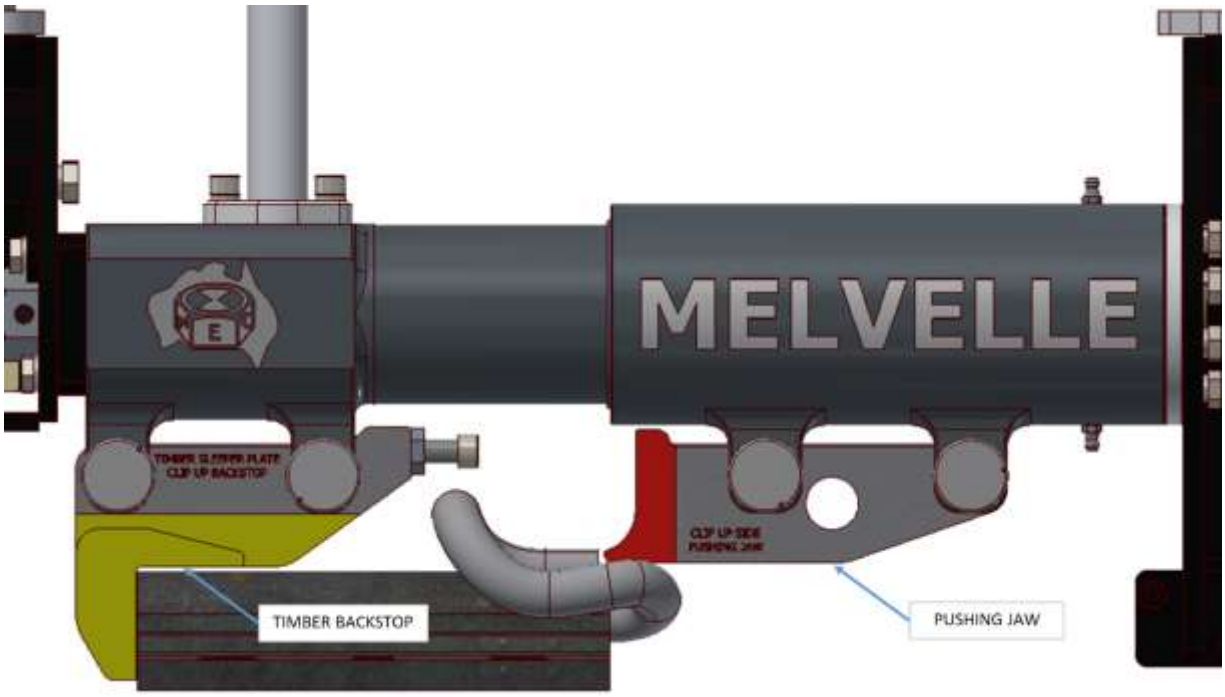
For Unclipping concrete and timber sleepers the same jaws are used. Below shows the jaws to be used and there arrangement.



For clipping up concrete sleepers the jaws below are to be used.



For clipping timber sleepers the jaws below are to be used.



7.4. Operating Procedure – First clip setup

1. Ensure Pre-operational checks and machine set-up have been conducted as per sections 7.2 and 7.3 respectively.

2. Using your right hand grab the main handle. With the drill set to anti-clockwise direction pull the trigger momentarily to open up the jaws. Note the sound of the drill will change when end of stroke is achieved and possibly cut out. Do not try to open the jaws again if it cuts out.

3. Place the machine down onto the sleeper visually looking at the yellow backstop. Note either clipping or unclipping the landing off the backstop is critical in machine operation. check that the pads rest on the side of the rail head and on the side of the rail foot

4. Adjust the rail height adjustment handles until the machine appears parallel to the rail. The machine must react off the rail to stop excessive rotation during clipping/unclipping. Tighten both locknuts on adjustments.

5. If inserting clips insert the first clip and check if it is driven the correct distance. If not adjust the backstop jacking screw to achieve the correct dimensions.

7.5. Operating Procedure – Clipping/unclipping

1. Ensure Pre-operational checks and machine set-up have been conducted as per sections 7.2, 7.3 and 7.4 respectively.

2. With the machine ready to operate place the machine down onto the clip. Check the pads are in contact with the rail head and side of the rail foot. (ballast may need to be cleared if the clipper is not sitting right)

3. With the drill set to clockwise rotation pull the trigger to engage the drive. Listen and watch for the clip to insert/remove. Once complete release the trigger and flick the drill to counter-clockwise direction and open up the jaws. (If a clip is stuck back off the jaws and go again, this may be done a couple of times to get a particularly stuck clip. DO NOT do this at the limits of the machines travel or against the jaw stops. The machine can become bound up at the limits and is unable to loosen itself) (Note joiner plates will foul on the pads and the clipper will not do clips around the joiners)

4. Move to the next clip as easiest for the operator.

8. Storage & Transport

MEC equipment should be stored in a secure, safe, dry location to ensure the equipment is not damaged and maintained in good working order. If possible, machines may be placed onto racks or placed on the ground for storage.

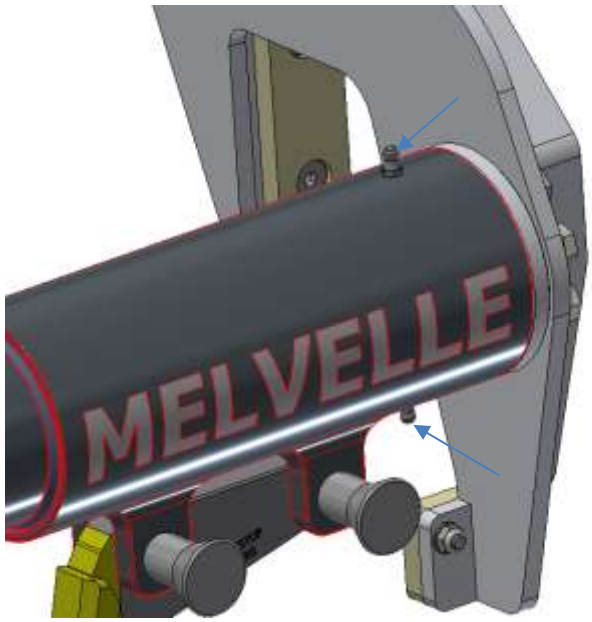
Transport in a suitable box or crate to eliminate risks of damage from strapping down.

9. Maintenance and Care

NOTICE

In addition to the Safety Precautions found in this manual and the supporting tool and engine manuals, observe the following for equipment protection and care

- Always grease the required areas on a periodic basis.
- Keep jaws in good condition and monitor wear over time. Jaws are a consumable item and will need replacement.
- Always store the machine in a clean dry space, safe from damage or pilferage
- Always use genuine MEC spare parts. Non genuine parts will void the warranty and expose operators to the uncontrolled hazard of component failure. MEC cannot provide quality assurance for non-genuine parts, hence there is a chance they will fail, causing serious injury or death.



Grease point locations

9.1. Maintenance Period

REGULAR SERVICE PERIOD Perform at every indicated month or usage, whichever comes first. ITEM		Each use	Every 12 months	Every 5 years
Rail guides	Visual Check	X		
Rail height adjustment pins.	Visual Check	X		
	Lubricate		X	
Nylon rail pads	Visual check	X		
	Dimensional check		X	
Jaws	Visual Check	X		
	Dimensional check		X	
	Replace			X
Internal trapezoidal screw	Visual Check		X	
	Grease		X	
Trapezoidal Nut	Visual Check		X	
	Grease		X	
Main aluminium tube	Visual Check	X		
	Dimensional check		X	
Sliding carriage	Visual Check	X		
	Dimensional check		X	
Carriage bush's	Visual check		X	
Internal Bearings	Check for wear		X	
	Grease		X	
	Replace			X
Sliding keyways	Check for wear		X	
	Grease		X	
	Replace keys			X
Drill Chuck	Check if loose	X		

9.2. Troubleshooting

PROBLEM	POSSIBLE CAUSE	CORRECTION
Not fitting over clips	Incorrect jaws fitted	Ensure correct jaws are fitted as per section 7.3
	Ballast interfering with rail guides	Clear ballast around foot of rail
Machine not removing clips	Jaws fitted in incorrect orientation	Ensure jaws are fitted as per section 7.3
	Clips heavily rusted. If the clips require large amount of force (E.g. multiple hits from a hammer) to remove the clips. They are outside of this machines capacity.	Use Melvelle Equipment's Trackpack system to remove frozen clips. Contact for more information.
	Drill underpowered	Battery may not be fully charged
	Battery charge depleted	Charge and/or replace battery pack in wrench
	Internal screw issue	If the screw does not appear to be rotating disassemble and inspect.
	Jaws broken	Replace
	Drill chuck loose	Tighten drill chuck on adapter.
	Drill cutting out	This is normal. The drill has overload protection that prevents motor burnout. Backing off the jaws and driving again multiple times may be required
Machine not installing clips/ incorrectly installing	Jaws fitted in incorrect orientation	Ensure jaws are fitted as per section 7.3
	Backstop incorrectly adjusted.	Check adjustment as per section 7.3
	Internal screw issue	If the screw does not appear to be rotating disassemble and inspect.
	Jaws broken	Replace
Machine stuck at limit of travel	Machine is bound up	Reverse direction of the drill and un-bind it from the limit
		34mm spanner around the drive input may be required to free it form the bound state

10. Further Documents

Please refer to the further documents within for drawing, risk assessment and other related information.

10.1. Operational Risk Assessment

	Machine: FP-190-HH - Hand Held E-clip Inserter/Remover							Form No.:	
	ABN							Issue Date	16/01/2018
	WORKPLACE GENERIC HIRARC FORM							Version:	0

Company	**MELVELLE EQUIPMENT CORP**	**Department / Workplace:**	**Melvelle Offices**	**Date of Assessment 16/01/2018**	**Commenced:**	9am	**Completed:**	12md

Scope of Assessment: Identify the risks and hazards associated with the operation of a rail maintenance machine to insert and remove pandrol e-clips from in situ tracks.

Names of Risk Assessment Team: Gary Morris, Ben Derooy	**Names of additional personnel consulted during Risk Assessment: Jason Casboult**	**Identified limitations of risk assessment: Only applies to risks identified as part of the operation of the machine.**
		Information Sources / References: AS4024.1-2006 Safety of Machinery, AS4024-2601-Two Handed Control Device

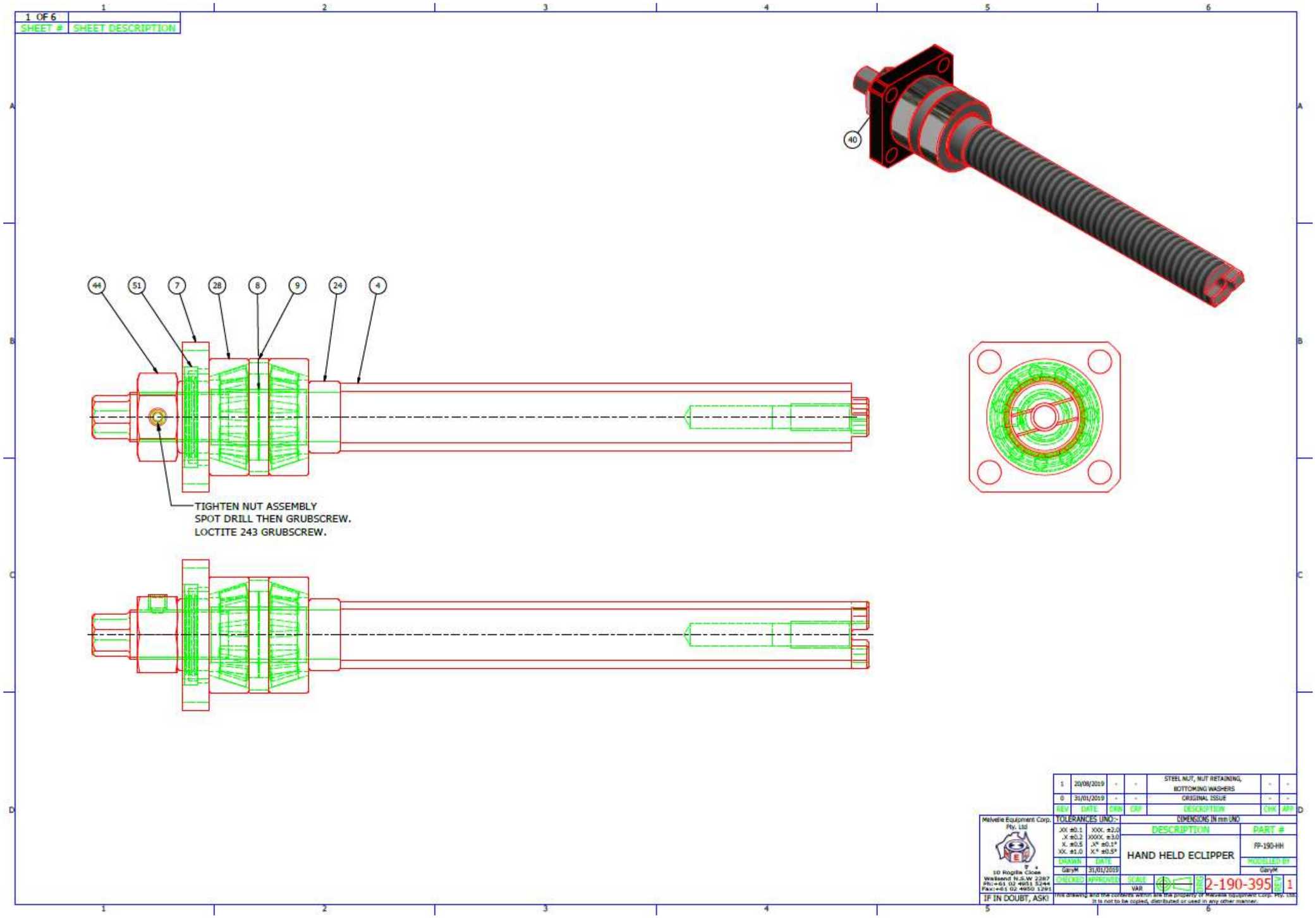
RISK ASSESSMENT MATRIX

Potential Consequences			Likelihood				
			Almost Certain	**Likely**	**Possible**	**Unlikely**	**Rare**
Keyword	**Description Safety Health & Hygiene**	**Description Environmental**	*Expected to occur*	*Will occur occasionally*	*May Occur*	*Not expected to occur*	*Requires unusual chain of events*
Minor	First Aid Injury	On-site release immediately contained with business unit resources	**Medium 8**	**Medium 7**	**Low 3**	**Low 2**	**Low 1**
Significant	Medical Treated Injury or illness	On-site release or offsite release immediately contained with smelter resources	**High 14**	**Medium 10**	**Medium 9**	**Low 5**	**Low 4**
Serious	Lost Time Injury or illness	Off-site release causing nuisance or community complaint. Breach of license condition	**High 16**	**High 15**	**Medium 12**	**Medium 11**	**Low 6**
Severe	Fatality or Permanently disabling injury of illness	Off-site release with detrimental impact to environment or community. Repeated breach of license conditions	**Extreme 24**	**Extreme 22**	**High 20**	**High 18**	**Medium 13**
Disastrous	Multiple Fatalities or work-related fatal diseases	Toxic release off-site with detrimental impact to environment or community	**Extreme 25**	**Extreme 23**	**Extreme 21**	**High 19**	**High 17**

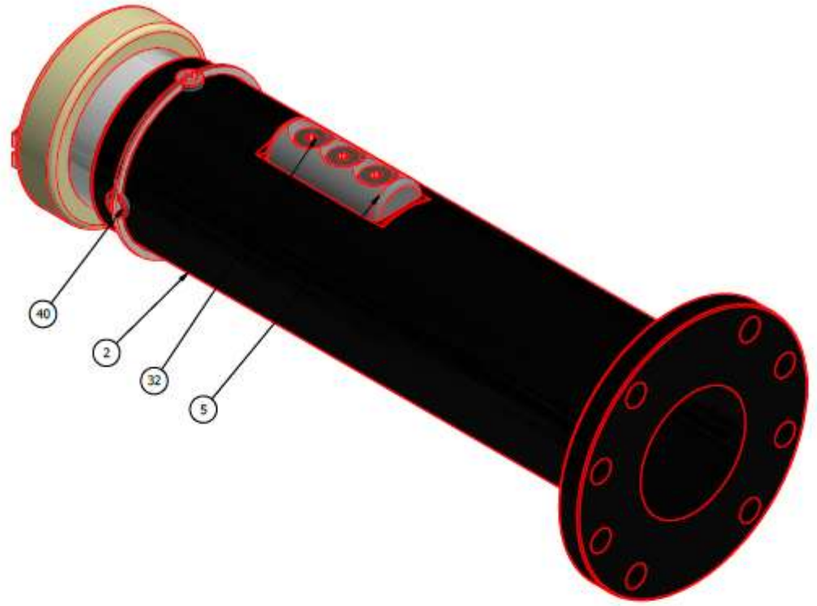
LEGEND	ACTION REQUIRED	NOTIFY
LOW 1-6	Tolerable - Manage by Routine Procedures	
MEDIUM 7-13	Risk reduction required to "As low as Reasonably Practicable" ALARP	Design Team/Engineer
HIGH 14-20	Immediate action required to reduce risk. Authorisation required before proceeding on task	CEO
EXTREME 21-25	Intolerable. Cease activity until controls in place to reduce risk. Immediate & urgent Senior Management Team action required	CEO

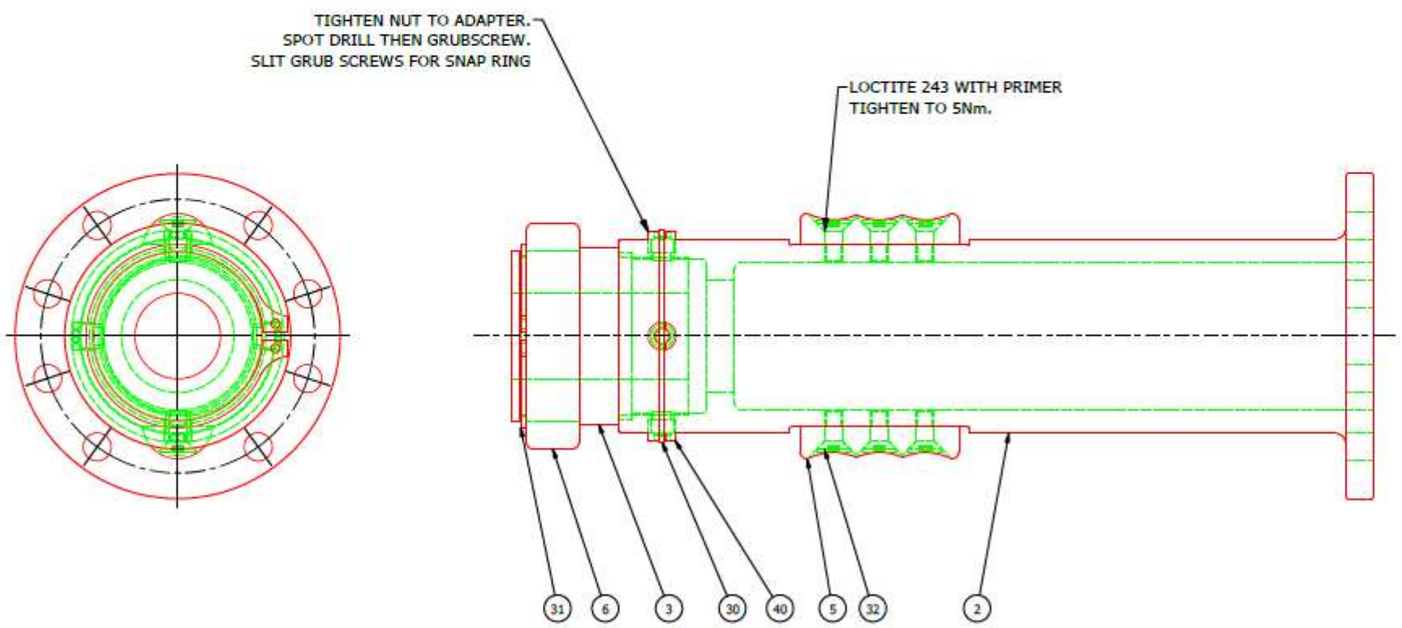
MANAGEMENT ACTIONS	
Comments	Refer to Action Plan
Risk Assessment Referred to:	Design Team
Risk Assessment Accepted by:	Andrew Melvelle
Risk Assessment findings recorded in the Project Design Folder	Design Team
Risk Assessment Findings communicated to:	Design Team, Melvelle Equipment Corp.

10.2. GA Drawings



2 OF 6	BRONZE NUT
SHEET #	SHEET DESCRIPTION





REV	DATE	DRN	CHK	DESCRIPTION	CHK	APP
1	20/08/2019	-	-	STEEL NUT, NUT RETAINING, BOTTOMING WASHERS	-	-
0	31/01/2019	-	-	ORIGINAL ISSUE	-	-

Melville Equipment Corp. Pty. Ltd
10 Rogilla Close
Wallsend N.S.W 2287
Ph:+61 02 4951 5244
Fax:+61 02 4950 1291

TOLERANCES UNO:-
.XX ±0.1 XXX. ±2.0
.X ±0.2 XXXX. ±3.0
X. ±0.5 .X° ±0.1°
XX. ±1.0 X.° ±0.5°

DIMENSIONS IN mm UNO

DESCRIPTION: HAND HELD ECLIPPER

PART #: FP-190-HH

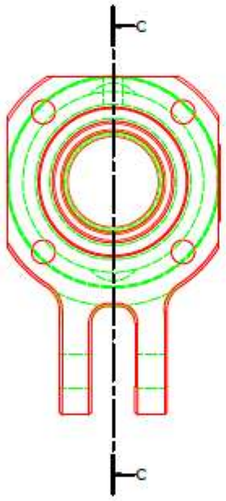
MODELLED BY: GaryM

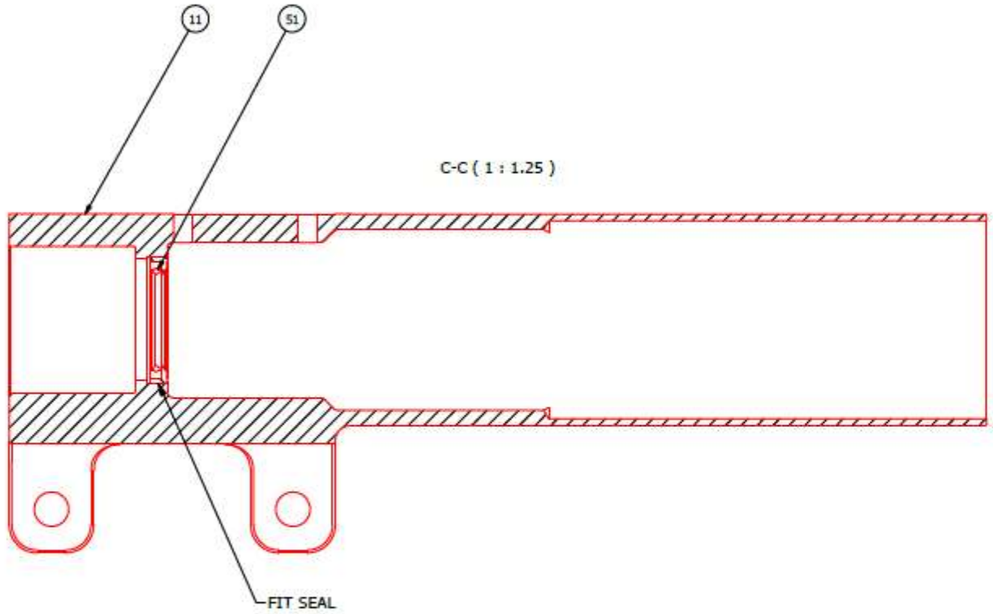
DRAWN: GaryM 31/01/2019

CHECKED | APPROVED | SCALE: VAR | DWG: 2-190-395 | REV: 1

IF IN DOUBT, ASK!

3 OF 6	SEAL FITTING
SHEET #	SHEET DESCRIPTION





C-C (1 : 1.25)

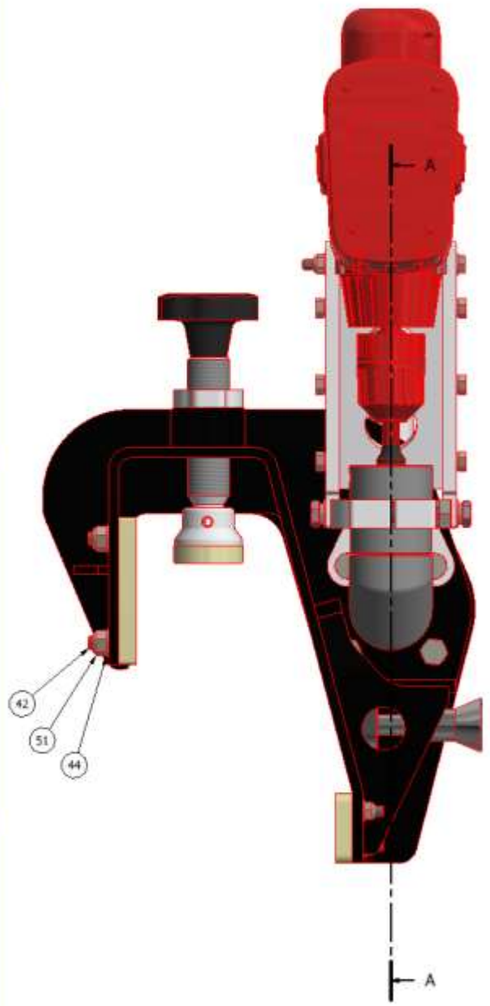
REV	DATE	DRN	CRF	DESCRIPTION	CHK	APP
1	20/08/2019	-	-	STEEL NUT, NUT RETAINING, BOTTOMING WASHERS	-	-
0	31/01/2019	-	-	ORIGINAL ISSUE	-	-

Melville Equipment Corp. Pty. Ltd
10 Rogilla Close
Wallsend N.S.W 2287
Ph:+61 02 4951 5244
Fax:+61 02 4950 5291

IF IN DOUBT, ASK!

TOLERANCES UNO:-		DIMENSIONS IN mm UNO	
.XX ±0.1	XXX. ±2.0	DESCRIPTION	PART #
.X ±0.2	XXXX. ±3.0	HAND HELD ECLIPPER	FP-190-HH
X. ±0.5	.X° ±0.1°		MODELLED BY
XX. ±1.0	X.° ±0.5°		GaryM
DRAWN	DATE		
GaryM	31/01/2019		
CHECKED	APPROVED	SCALE	SIZE / DWG NO. / REV
		1:1.25	A3 2-190-395 1

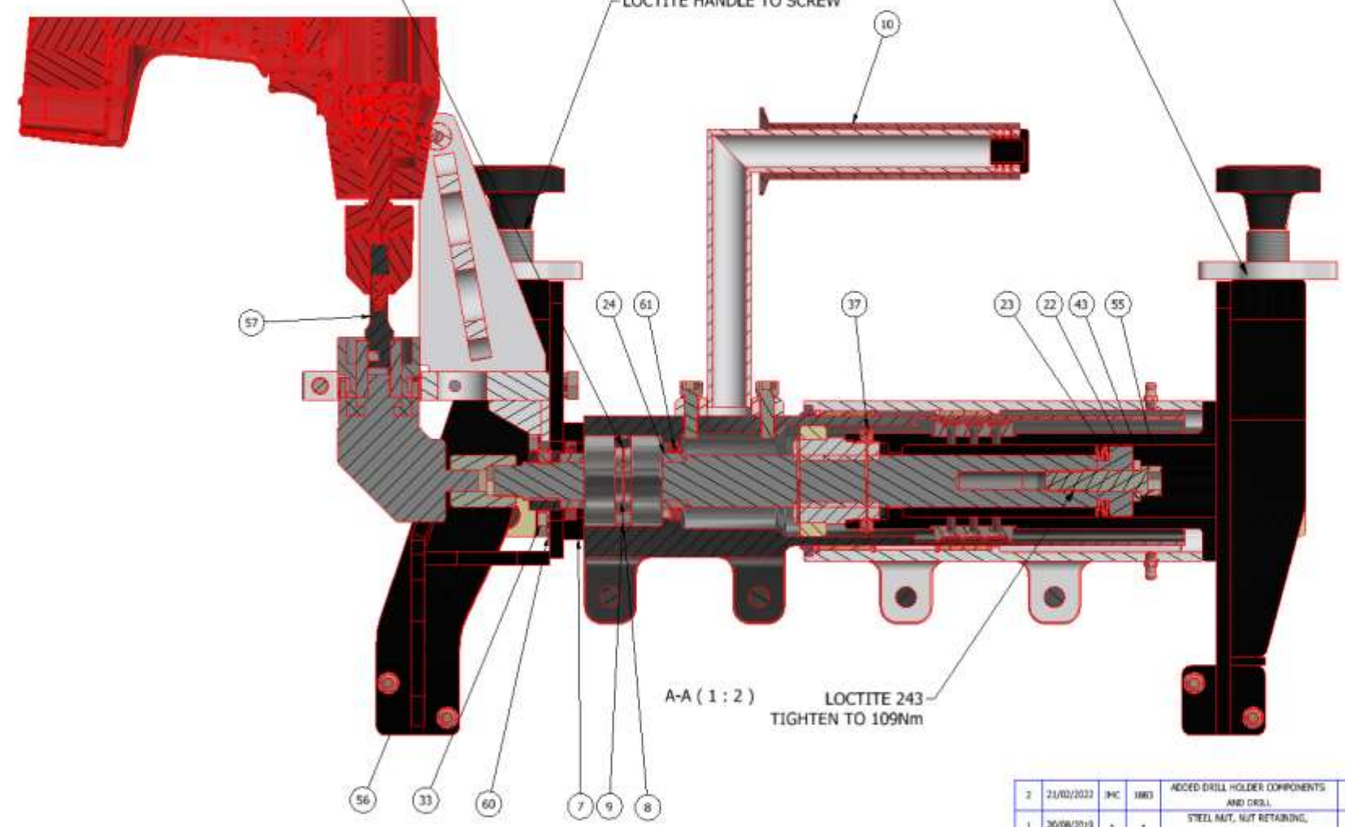
4 OF 6 | ASSY
SHEET # | SHEET DESCRIPTION



HEAVILY LUBRICATE ON ASSEMBLY
USE HEAVY DUTY GREASE
CONTAINING MOLYBDENUM DISULPHIDE

LOCTITE HANDLE TO SCREW

ENSURE TAP HAS BEEN RUN
THROUGH THREAD AFTER WELDING. M24x1.5
IT IS CRUCIAL TO LUBRICATE ALUMINIUM
THREADS ON ASSEMBLY.
USE WHITE MOLYBDENUM GREASE.



A-A (1 : 2)

LOCTITE 243
TIGHTEN TO 109Nm

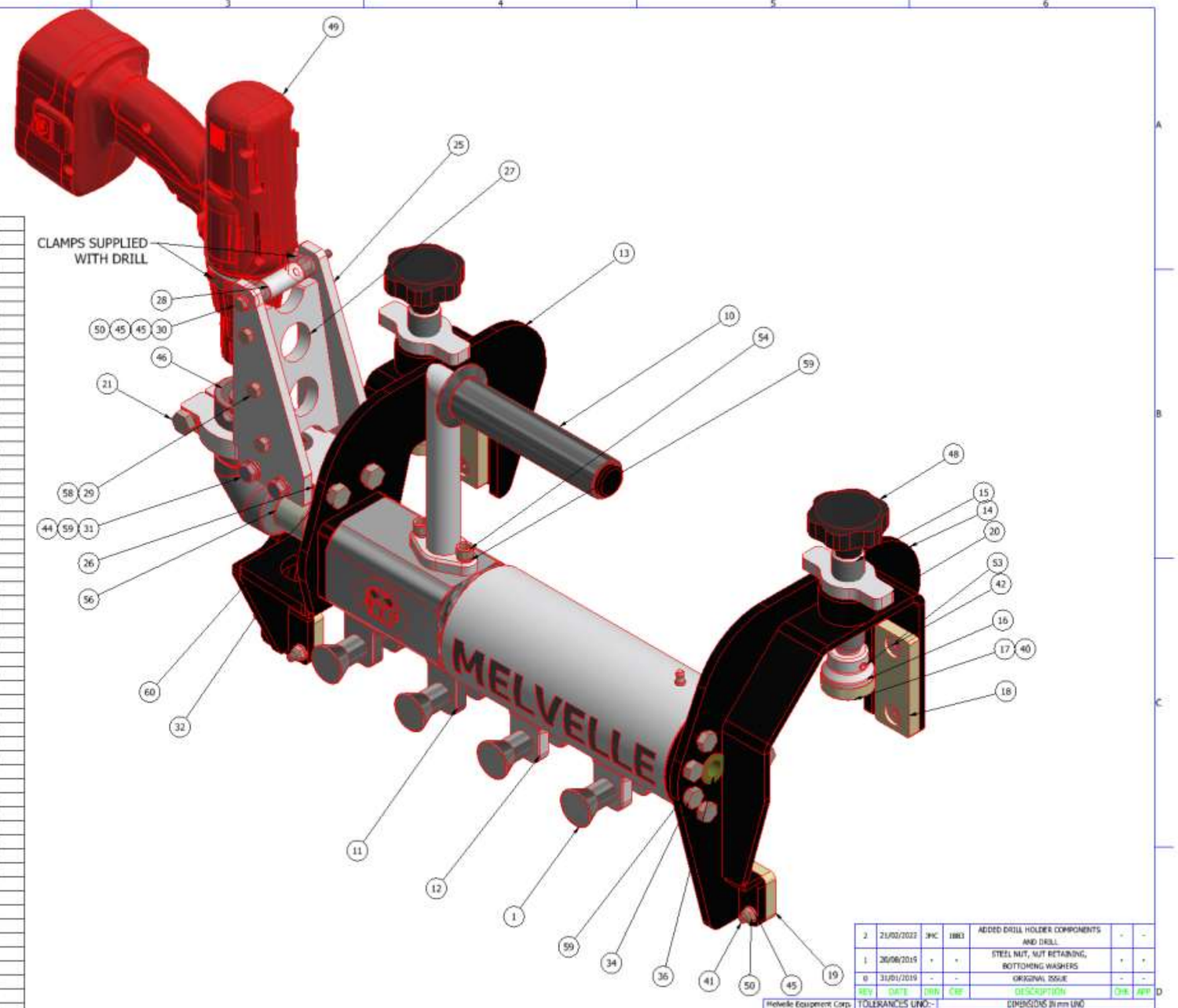
REV	DATE	DRN	CHK	DESCRIPTION	CHK	APP
2	21/02/2022	IMC	IMG	ADDED DRILL HOLDER COMPONENTS AND DRILL	-	-
1	30/08/2019	-	-	STEEL NUT, NUT RETAINING, BOTTOMING WASHERS	-	-
0	31/01/2019	-	-	ORIGINAL ISSUE	-	-

Helvelle Equipment Corp. Pty Ltd
10 Rogita Close
Wallsend N.S.W 2287
Ph:+61 02 4951 5304
Fax:+61 02 4950 1291
IF IN DOUBT, ASK!

TOLERANCES UNO:-
.XX ±0.1 XXX. ±2.0
.X ±0.2 XXXX. ±3.0
X. ±0.5 .X° ±0.1°
XX. ±1.0 X.° ±0.5°
DRAWN: GAryH | DATE: 31/01/2019
CHECKED | APPROVED

DIMENSIONS IN mm UNO
DESCRIPTION: HAND HELD ECLIPPER
PART #: FP-190HH
MODELLED BY: GAryH
SCALE: VAR
SIZE: A3
DWG NO: 2-190-395
REV: 2

SHEET #	SHEET DESCRIPTION
5 OF 6	ASSY



ITEM	DESCRIPTION	PART NUMBER	ITEM QTY
61	TC OIL SEAL 32ID x 45OD x 7L	TC32457	2
60	10MM SPRING WASHERS	SWM10	6
59	5/16" SPRING WASHER	SW05	14
58	1/4" SPRING WASHER	SW04SQ	6
57	DRIVE ADPATER 7/16" HEX TO 1/2" SQUARE DRIVE	SOCKETADP-0708	1
56	17mm AF SINGLE HEX SOCKET 1/2" DRIVE	SOCKET-0817-6	1
55	SOCKET HEAD CAP SCREW M12 X 55	SHM1255	2
54	SOCKET HEAD CAP SCREW M8x25, SS A480	SHM0825-SSA480	2
53	SEIL LOK PIN 1/4" X 1-3/4"	R0420	2
52	HEX NUT M22 FINE x 1.5P ZINC	NM22FZ	1
51	NUT M8 NYLOC	NM08N	4
50	NUT M6 NYLOC	NM06N	5
49	MILWAUKEE 18V CORDLESS HAMMER DRILL GEN 3	HTGEN08	1
48	M12 THREADED TURN KNOB	HANDLE-003	2
47	GRUB SCREW M8 x 8LG DOGPOINTx2mm	GRSM0808-DP02	5
46	90 DEGREE 1-2 DRIVE IMPACT BOX	GEARBOX001-MOD	1
45	FLAT WASHER - ENGINEERS - 1/4" X 1/2" ZINC	FW0408	6
44	FLAT WASHER - ENGINEERS - 5/16" X 5/8" ZINC	FW05	8
43	DISK LOCK WASHER 12mm ZINC PLATED	DLD12	2
42	COUNTER SUNK CAP SCREW M8 X 25 A470	CSM08255316	4
41	COUNTER SUNK CAP SCREW M6 X 25 STAINLESS GR316	CSM06255316	4
40	COUNTERSUNK SCREW M5 X 16LG STAINLESS A470	CSM05165316	4
39	COUNTERSUNK SCREW M5 X 12LG STAINLESS A470	CSM05125316	6
38	CIRCLIP EXTERNAL 48mm	CRCPO-048	1
37	SNAP BORE RING M2400 55NB	CRC-M2400-055	1
36	VINYL MOSS PLASTIC PLUG 17WD 27OD 14LG	CAPMOS-172714	1
35	TAPER ROLLER BEARING 25ID x 52OD x 22LG	BRGT02505222	2
34	BOLT METRIC M8 X 30 ZINC GR8.8	BM08030-88Z	8
33	BOLT HT M10 X 40 ZINC	BM1040	4
32	BOLT M10 x 25 HEX HEAD HT	BM1025	2
31	BOLT HT M8 X 25 ZINC	BM0825	4
30	BOLT M6 x 90 GRADE 8.8 ZINC	BM0690Z	1
29	BOLT M6 x 25	BM0625	6
28	CLAMP SPACER	1900187	1
27	DRILL HOLDER WEB	1900186	1
26	DRILL HOLDER SHIM PROFILE	1900182-03	2
25	DRILL HOLDER SIDE PROFILE	1900182-01	2
24	BEARING SLEEVE	1900163	2
23	MODIFIED SPRING WASHER	1900162	3
22	SHAFT END STOP FOR WASHER	1900161	1
21	ADAPTER HOLDER	1900147	1
20	LOCKING HANDLE	1900146	2
19	LOWER GUIDE PAD	1900145	2
18	OUTER NYLOND PAD	1900144	2
17	TOP GUIDE PLATE	1900143	2
16	TOP GUIDE MOUNT PLATE	1900142	2
15	RAIL GUIDE THREADED ADJUSTER	1900141	2
14	CARRIAGE END RAIL GUIDE	1900139	1
13	BEARING END RAIL GUIDE	1900138	1
12	FULL CARRIAGE ASSEMBLY	1900137	1
11	BEARING HOUSING AND SLIDE	1900136	1
10	HANDLE	1900135	1
9	BEARING OUTER SPACER	1900134	1
8	BEARING INNER SPACER	1900133	1
7	BEARING END CAP	1900131	1
6	SLIDING BUSH	1900129	1
5	SLIDING KEY	1900128	2
4	MODIFIED TRAPAZOIDAL SCREW	1900127	1
3	MODIFIED DRIVE NUT	1900126	1
2	ADAPTER CARRIAGE TO NUT	1900125	1
1	QUICK RELEASE PIN, 12x40, SS - CHAMFERED/ LOCTITED	1900031	4

PARTS LIST

REV	DATE	DRN	CHK	DESCRIPTION	CHK	APP
2	21/02/2022	JHC	IBB	ADDED DRILL HOLDER COMPONENTS AND DRILL	-	-
1	26/08/2019	"	"	STEEL NUT, NUT RETAINING, BOTTOMING WASHERS	"	"
0	31/01/2019	-	-	ORIGINAL ISSUE	-	-

Helvelle Equipment Corp. Pty. Ltd
10 Regina Close
Wallsend N.S.W 2287
Ph: +61 02 4951 5244
Fax: +61 02 4959 1291

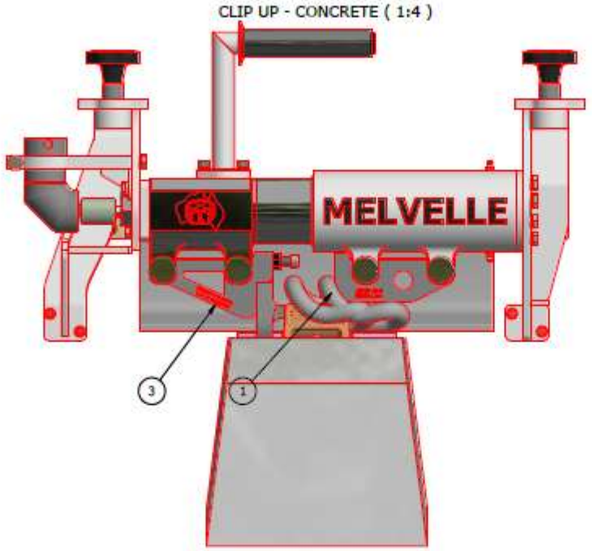
TOLERANCES UNO:-
.XX ±0.1 .X ±0.2 X. ±0.5 XX. ±1.0
XXX. ±2.0 XXXX. ±3.0 .X° ±0.1° X.° ±0.5°
DIMENSIONS IN mm UNO

DESCRIPTION: HAND HELD ECLIPPER
PART #: FP-190-HH
DRAWN: GaryH 31/01/2019
MODELLED BY: GaryH
CHECKED
APPROVED
SCALE: VAR
SIZE: A3
DWG NO: 2-190-395
REV: 2

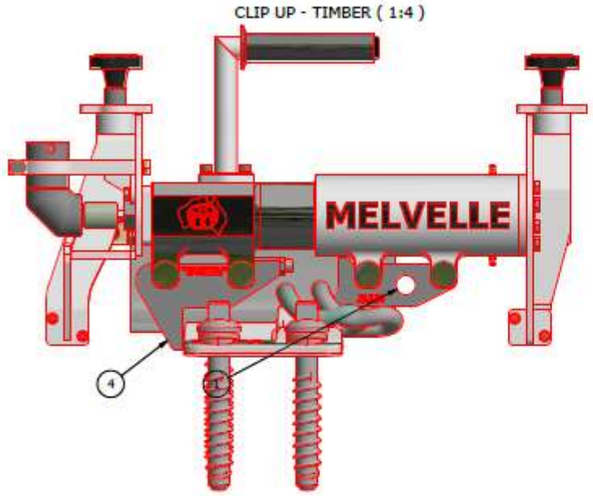
IF IN DOUBT, ASK!

6 OF 6 | JAWS
SHEET # | SHEET DESCRIPTION

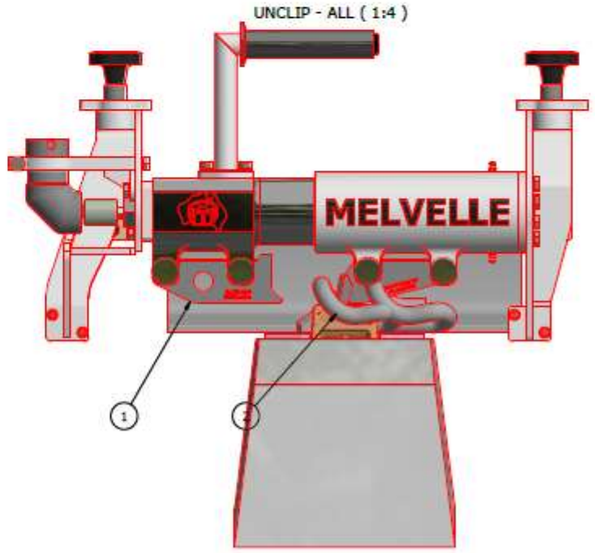
CLIP UP - CONCRETE (1:4)



CLIP UP - TIMBER (1:4)



UNCLIP - ALL (1:4)



ITEM	DESCRIPTION	PART NUMBER
13	PR-CLIP PUSHING JAW HAND HELD CLIPPER	1900164
12		pr401a_defi
11	PR CLIP, CLIP & UN CLIP, JAW, CONCRETE	1900058
10	E CLIP, CLIP UP & UN CLIP, JAW, CONCRETE SLEEPER	1900029
5	HAND HELD ECLIPPER	FP-190-HH
4	E-CLIP,CLIP-UP BACKSTOP TIMBER HAND HELD CLIPPER	1900124
3	E-CLIP, CLIP-UP BACKSTOP CONCRETE HAND HELD CLIPPER	1900123
2	E-CLIP UNCLIP BACKSTOP HAND HELD CLIPPER	1900122
1	E-CLIP PUSHING JAW HAND HELD CLIPPER	1900121

PARTS LIST

REV	DATE	DRN	CRF	DESCRIPTION	CHK	APP
1	20/08/2019	-	-	STEEL NUT, NUT RETAINING, BOTTOMING WASHERS	-	-
0	31/01/2019	-	-	ORIGINAL ISSUE	-	-

Melvelle Equipment Corp. Pty. Ltd
10 Rogilla Close
Wallsend N.S.W 2287
Ph:+61 02 4951 5244
Fax:+61 02 4950 1291

TOLERANCES UNO:- | DIMENSIONS IN mm UNO
.XX ±0.1 | XXX. ±2.0
.X ±0.2 | XXX. ±3.0
X. ±0.5 | .X° ±0.1°
XX. ±1.0 | X.° ±0.5°

DESCRIPTION: MODEL WITH JAWS
PART #: FP-190-HH-JAW001
DRAWN: GaryM | DATE: 31/01/2019
MODELLED BY: GaryM
CHECKED | APPROVED
SCALE: VAR
SIZE: A3
DWG NO: 2-190-395
REV: 1
IF IN DOUBT, ASK!