

OWNER'S MANUAL



POWERCLAM GRAPPLE

OPERATION, MAINTENANCE, AND PARTS

CUSTOMER: _____

POWERCLAM MODEL: 106D0456 **SERIAL:** _____

MACHINE MAKE/MODEL: _____

MACHINE SERIAL: _____

Parts / Product Support

Toll Free (North America) 1-800-208-2217

Phone (250) 286-9500 | Fax (250) 286-9501

Factory / Head Office

5791 Duncan Bay Road

Campbell River, BC. V9H 1N6

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T-MAR Attachments – Limited Warranty Certificate

General Provisions – T-MAR Industries Ltd. (hereinafter referred to as “T-MAR”) warrants its attachments (hereinafter referred to as the “Product”) against defects in material or factory workmanship, subject to all terms and conditions stated herein, to the T-MAR Authorized Dealer (hereinafter referred to as the “Dealer”).

Warranty Coverage – All parts of the T-MAR product covered by this warranty which proves to be defective in material or workmanship. This warranty applies to all used, maintained, and serviced as intended, in compliance with/as directed in all applicable guidelines and instructions as set forth in the product manual. This warranty applies for a period of twelve (12) months, from the first day in service, so long as the first day in service is not later than eighteen (18) months from delivery to the dealer.

The warranty includes the labor performed by T-MAR or T-MAR Dealer. Proof of defect must be submitted within ten (10) days from the date of failure or defect discovery and any claim must be submitted within thirty (30) days from the date of submission of proof of failure or defect. The warranty extends only to the original purchaser (hereinafter referred to as the “Buyer”) of the Product and not to other purchasers or transferees unless agreed to in writing by T-MAR.

What is Not Warranted – T-MAR is not responsible for the following: (1) used Products; (2) defects caused by an alteration or modification of the Product not approved in writing by T-MAR; (3) depreciation or damage caused by normal wear; lack of reasonable and proper maintenance; failure to meet/comply with specifications and guidelines outlined by T-MAR; misuse; lack of proper protection during storage; or accident; (4) normal maintenance parts, fluids and service; (5) labor in diagnosis of a breakdown; (6) any defects resulting from the modification of factory pre-set pressures; and (7) expenses for miles or kilometers travelled.

Unintended or Unusual Use or Operation of the Product – The Product is designed and manufactured by T-MAR for use in certain specific applications, by properly qualified and trained personnel, in compliance with T-MAR’s manuals and all controlling federal, provincial and industry guidelines and regulations. Any other such use(s) or operation of the product shall be approved beforehand in writing by T-MAR.

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Warranty Service – In the event of any failure caused by a defect in material or in factory workmanship covered by this warranty, the Buyer shall: (1) notify T-MAR of the nature of the problem without a delay; and (2) stop using or operating the Product, unless authorized in writing by T-MAR. All warranty service shall be performed at the point of purchase of the Product either by T-MAR or a T-MAR Dealer using parts provided by T-MAR.

If the product was purchased directly from T-MAR, the Buyer shall return the Product or the defective parts “prepaid” to T-MAR without delay. If T-MAR deems that the parts are defective, it shall repair or replace the parts.

If the product was purchased from a Dealer, T-MAR shall provide the replacement parts to the Dealer. The Dealer shall install the parts and return the replaced parts to T-MAR, “prepaid” by the Buyer, within thirty (30) days of the repairs. The parts and their installation shall be without charge to the Buyer providing that the replaced parts are proven defective to T-MAR’s satisfaction. In all cases, all costs related to the transportation of parts or the Product to and from T-MAR or the Dealer, any premium charged for overtime labor requested by the Buyer or for any service and/or maintenance shall be the sole responsibility of the Buyer.

All parts replaced under warranty shall remain the property of T-MAR.

If the buyer fails to follow any of the above procedures or if the parts are not proven to be defective to T-MAR’s satisfaction, the Buyer shall not benefit from the warranty.

Limitation of Implied Warranties and Other Remedies – To the extent permitted by law, T-MAR does not make any warranties, representations or promises as to the quality, performance, or freedom from defect of the Product covered by this warranty. Implied warranties of merchantability and fitness for a particular purpose, to the extent applicable shall be limited in duration to the applicable period of warranty set forth herein. The Buyer’s only remedies of any warranties implied by a provincial and/or state law as hereby limited, the foregoing warranty is exclusive and replaces all other warranties, guarantees, agreements and similar obligations of T-MAR with respect to the repair or replacement of any part. In no event shall T-MAR be liable for incidental or consequential damages.

No Dealer Warranty – The Dealer has no authority to make any representation or promise on behalf of T-MAR, or to modify the terms or limitations of the warranty in any way.

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T-MAR Spare Parts (New & Remanufactured) – Limited Warranty Certificate

General Provisions – T-MAR Industries Ltd. (hereinafter referred to as “T-MAR”) warrants its Spare Parts (hereinafter referred to as the “Product”) against defects in material or factory workmanship, subject to all terms and conditions stated herein, to the T-MAR Authorized Dealer (hereinafter referred to as the “Dealer”).

Warranty Coverage – Structural component(s) of the T-MAR Product covered by this warranty which prove(s) to be defective in material or workmanship. This warranty applies to T-MAR manufactured components used, maintained and serviced as intended, in compliance with/as directed in all applicable guidelines and instructions as set forth in the product manual. This warranty applies for the period of six (6) months from the date of purchase. Proof of defect must be submitted within ten (10) days from the date of failure or defect discovery and any claim must be submitted within thirty (30) days from the date of submission of proof of failure/defect. The warranty extends only to the original purchaser (hereinafter referred to as the “Buyer”) of the Product and not to other purchasers or transferees unless agreed to in writing by T-MAR.

What is Not Warranted – T-MAR is not responsible for the following: (1) used Products; (2) defects caused by an alteration or modification of the Product not approved in writing by T-MAR; (3) depreciation or damage caused by normal wear; lack of reasonable and proper maintenance; failure to meet/comply with specifications and guidelines outlined by T-MAR; misuse; lack of proper protection during storage; or accident; (4) normal maintenance parts, fluids and service; (5) labor in diagnosis of a breakdown; (6) any defects resulting from the modification of factory pre-set pressures; and (7) expenses for miles or kilometers travelled.

Unintended or Unusual Use or Operation of the Product – The Product is designed and manufactured by T-MAR for use in certain specific applications, by properly qualified and trained personnel, in compliance with T-MAR’s manuals and all controlling federal, provincial/state and industry guidelines and regulations. Any other such use(s) or operation of the product shall be approved beforehand in writing by T-MAR.

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Warranty Service – In the event of any failure caused by a defect in material or in factory workmanship covered by this warranty, the Buyer shall: (1) notify T-MAR of the nature of the problem without a delay; and (2) stop using or operating the Product, unless authorized in writing by T-MAR. All warranty service shall be performed at the point of purchase of the Product either by T-MAR or by a Dealer using parts provided by T-MAR.

If the product was purchased directly from T-MAR, the Buyer shall return the Product or the defective parts “prepaid” to T-MAR without delay. If T-MAR deems that the parts are defective, it shall repair or replace the parts.

If the product was purchased from a Dealer, T-MAR shall provide the replacement parts to the Dealer. The Dealer shall install the parts and return the replaced parts to T-MAR, “prepaid” by the Buyer, within thirty (30) days of the repairs. The parts and their installation shall be without charge to the Buyer providing that the replaced parts are proven defective to T-MAR’s satisfaction. In all cases, all costs related to the transportation of parts or the Product to and from T-MAR or the Dealer, any premium charged for overtime labor requested by the Buyer or for any service and/or maintenance shall be the sole responsibility of the Buyer.

All parts replaced under warranty shall remain the property of T-MAR.

If the buyer fails to follow any of the above procedures or if the parts are not proven to be defective to T-MAR’s satisfaction, the Buyer shall not benefit from the warranty.

Limitation of Implied Warranties and Other Remedies – To the extent permitted by law, T-MAR does not make any warranties, representations or promises as to the quality, performance, or freedom from defect of the Product covered by this warranty. Implied warranties of merchantability and fitness for a particular purpose, to the extent applicable shall be limited in duration to the applicable period of warranty set forth herein. The Buyer’s only remedies of any warranties implied by a provincial and/or state law as hereby limited, the foregoing warranty is exclusive and replaces all other warranties, guarantees, agreements and similar obligations of T-MAR with respect to the repair or replacement of any part. In no event shall T-MAR be liable for incidental or consequential damages.

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FLUSH SYSTEM BEFORE CONNECTING GRAPPLE

The following steps will replenish the hydraulic lines with fresh oil and deliver any contaminants to the return filter on the machine. This procedure should be performed any time a new attachment is fitted on a machine.

1. Connect the open and close hoses together at the tip of the stick.
2. Run the open or close function for thirty (30) seconds in one direction.
3. Repeat steps 1 & 2 with the rotation hoses.

Additional steps should be taken when a failed hydraulic component is replaced on an attachment. In this case, the lines should be looped where they would normally attach to the failed component, such that the entire circuit is flushed back to tank before the replacement component is installed. If a failed component introduced metal contamination to the open-close system, both cylinders should also be disassembled and thoroughly cleaned to remove and accumulated contamination.

SYSTEM CONTAMINATION IS THE LEADING CAUSE OF COMPONENT FAILURE. MOST OIL IN THE GRAPPLE CIRCUIT DOES NOT CIRCULATE BACK TO THE TANK DURING REGULAR OPERATION.

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SAFE OPERATION

- **Operators must read and understand the information provided in this manual before attempting to operate this attachment.**
- **Failure to follow these instructions may void warranty and may result in equipment damage and/or injury or death.**
- **This attachment and the machine to which it is attached should only be operated by trained personnel who are familiar with the use of this type of equipment.**
- **Do not lift, carry or suspend loads near people or equipment, or in a way that a dropped load could strike a person or equipment.**
- **Do not operate this equipment near overhead powerlines.**
- **Do not operate this equipment under the influence of drugs or alcohol.**
- **The attachment and base machine shall be inspected before every use. Any deficiencies found during inspection that could affect the safe use of the system shall be corrected before the machine is used.**
- **This attachment is designed for log handling in a forestry application. The attachment is not designed for any other use.**



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INSPECTION

- **The attachment and base machine shall be inspected before every use. Any deficiencies found during inspection that could affect the safe use of the system shall be corrected before the machine is used.**
- **Check all surfaces and weld joints for signs of cracks or deformation.**
- **Ensure that all guards are installed.**
- **Check that all fasteners are present and tight.**
- **Inspect all pin bores for bushing wear. Signs or wear include excess clearance between the pin and the bushing or an oval shaped bore.**
- **Ensure that all grease fittings are present, undamaged and functional.**
- **Inspect the hydraulic fittings and components for any signs of leakage.**
- **Inspect the hydraulic hoses for wear or deformation.**

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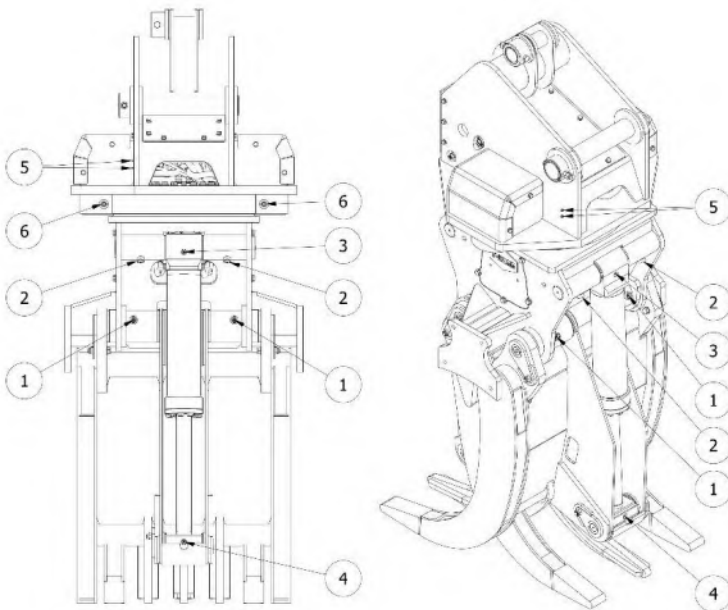
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MAINTENANCE

- **Regular maintenance is essential to the longevity and safe use of this attachment. Failure to follow these instructions voids warranty and may result in equipment damage, injury, or death.**
- **Never attempt a repair that you are not qualified to perform or do not fully understand.**
- **It is recommended that only T-MAR genuine parts are used in the repair and maintenance of this attachment. Use of unapproved components may void warranty.**
- **All components must be lubricated with the specified lubricant at the intervals in the below chart:**



| LOCATION | QUANTITY | LUBRICANT | FREQUENCY |
|------------------------|------------|----------------|-------------|
| 1- LEG PINS | 4 FITTINGS | MOLY EP GREASE | TWICE DAILY |
| 2- CYLINDER PIN BOSSES | 4 FITTINGS | MOLY EP GREASE | WEEKLY |
| 3- UPPER CYLINDER PINS | 2 FITTINGS | MOLY EP GREASE | TWICE DAILY |
| 4- LOWER CYLINDER PINS | 2 FITTINGS | MOLY EP GREASE | TWICE DAILY |
| 5- ROTATE BEARING | 2 FITTINGS | MOLY EP GREASE | DAILY |
| 6- PINION GEARS | 2 PORTS | MOLY EP GREASE | TWICE DAILY |

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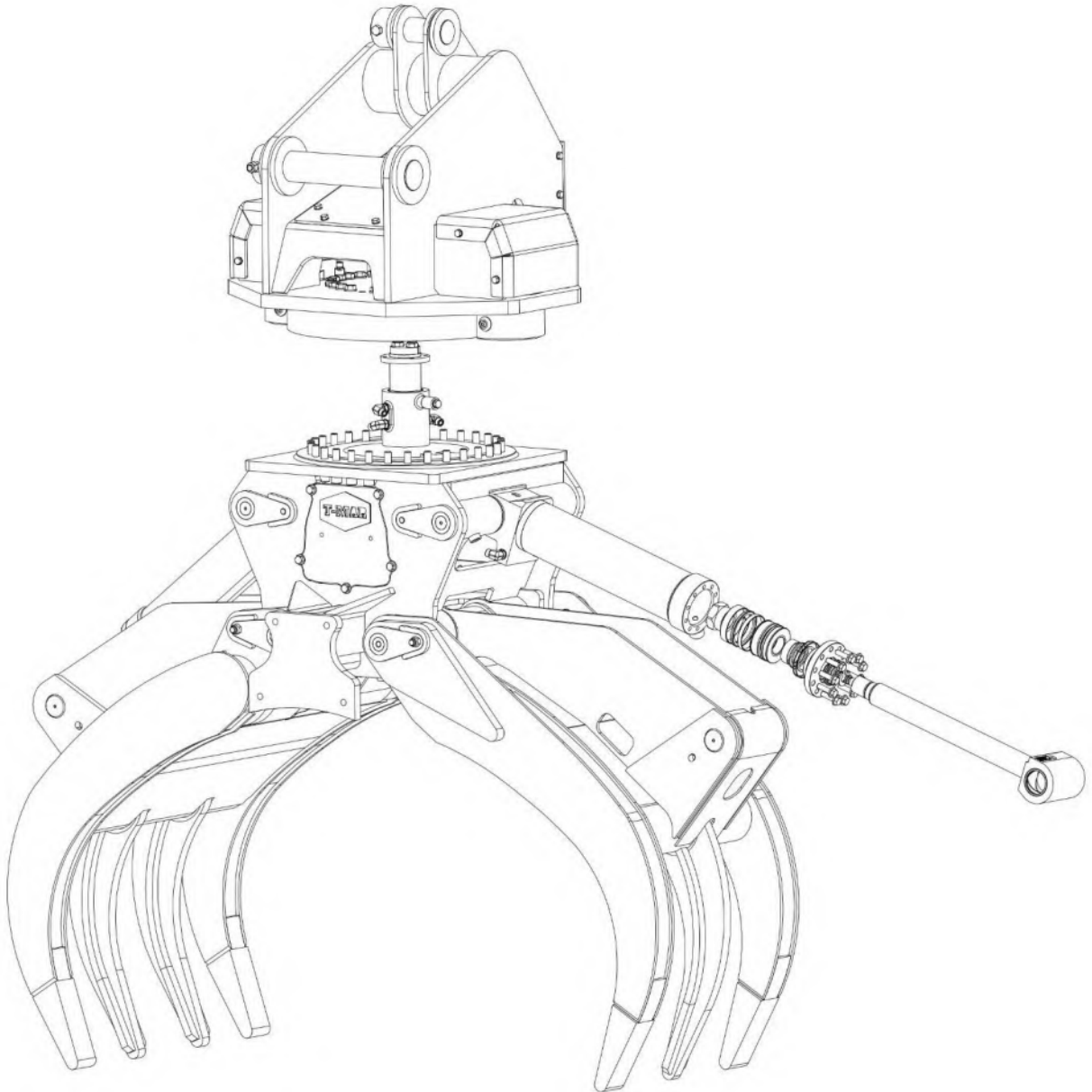
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PARTS MANUAL PAGES

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Powerclam Grapple Assembly

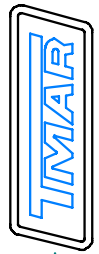
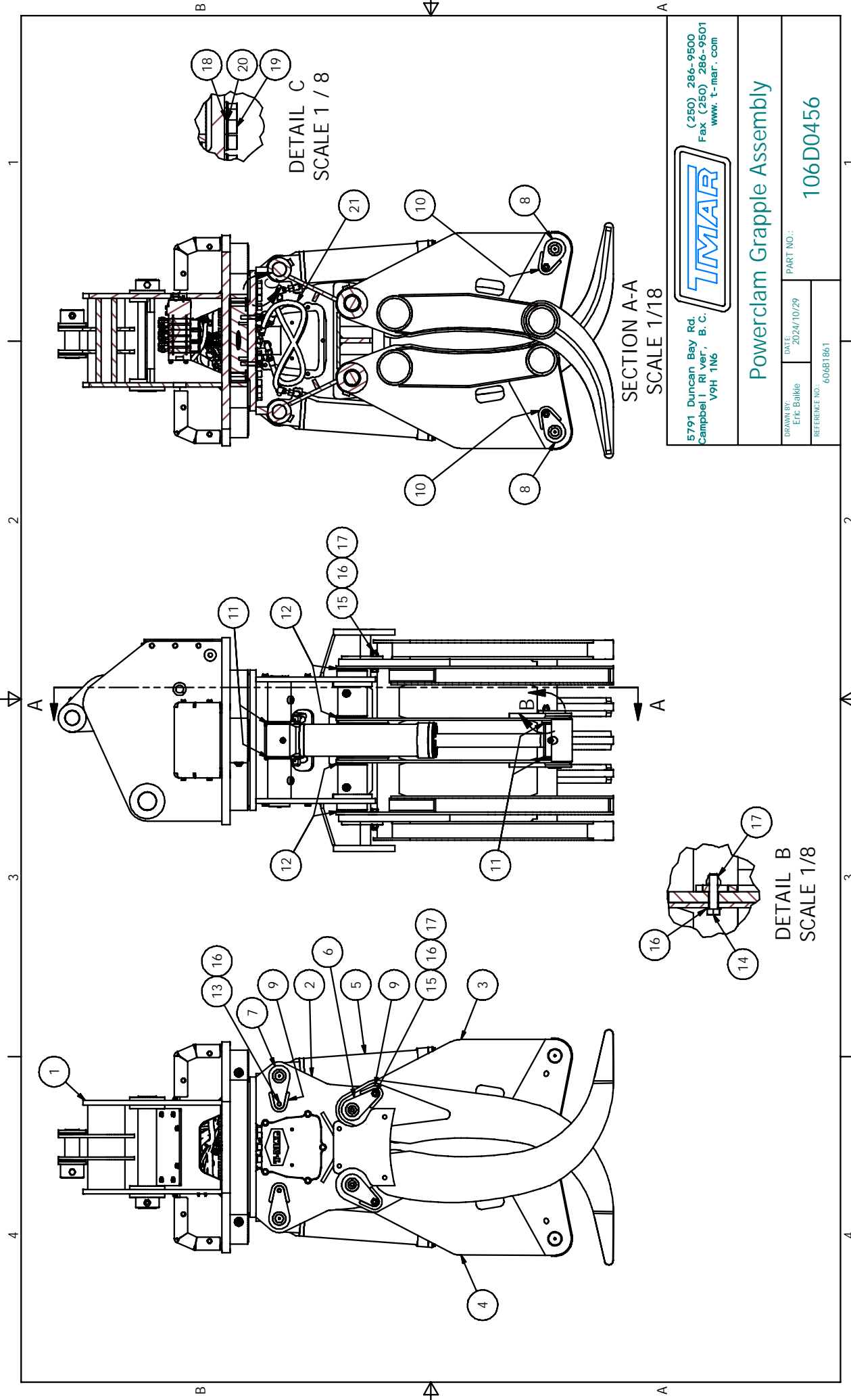
Ref. No:

606B1861

Rev. 0

Note: All fasteners are steel, and grade 8/10.9 minimum, unless explicitly noted.

| Item | Part No. | Description | Qty. |
|-------------|-----------------|---------------------------------------|-------------|
| --- | 106D0456 | Powerclam Grapple Assembly | --- |
| 1 | 206D0455 | Tophead Assembly | 1 |
| 2 | 206D0457 | Midsection Assembly | 1 |
| 3 | 306D0423 | Narrow Leg Weldment | 1 |
| 4 | 306D0424 | Wide Leg Weldment | 1 |
| 5 | 270C0106 | Cylinder Assembly | 2 |
| 6 | 340B0316 | Leg Pin | 4 |
| 7 | 340B0320 | Upper Cylinder Pin | 2 |
| 8 | 340B0321 | Lower Cylinder Pin | 2 |
| 9 | 406B1696 | Pin Retainer | 6 |
| 10 | 406B1695 | Rod-End Pin Retainer | 2 |
| 11 | 306B1765 | Machined Cylinder Shim | 8 |
| 12 | 306B1764 | Machined Leg Shim | 8 |
| 13 | SHP.40778 | HEX HD CAPSCREW M20 X 2.5 X 50 | 2 |
| 14 | SHP.11113782 | HEX HD CAPSCREW M20 X 2.5 X 85 | 2 |
| 15 | SHP.40786 | HEX HD CAPSCREW M20 X 2.5 X 100 | 4 |
| 16 | SHP.11103688 | FLAT WASHER M20, HARD | 8 |
| 17 | SHP.1140187 | NYLOCK HEX NUT M20 X 2.5 | 6 |
| 18 | SHP.34884 | FLAT WASHER M22, HARD | 30 |
| 19 | SHP.39767 | HEX SOCKET HD CAPSCREW M22 X 2.5 X 90 | 30 |
| 20 | SHP.40259 | LOCKWASHER M22 | 30 |
| 21 | 72A6050 CL36 | Hose, Open/Close | 4 |



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Powerclam Grapple Assembly

| | | |
|---------------------------|---------------------|-----------|
| DRAWN BY: Eric Baillie | DATE: 2024/10/29 | PART NO.: |
| REFERENCE NO.: | 606B1861 | 106D0456 |

Tophead Assembly

Ref. No:

606B1869

Rev. 0

Note: All fasteners are steel, and grade 8/10.9 minimum, unless explicitly noted.

| Item | Part No. | Description | Qty. |
|------|-------------|--|------|
| --- | 206D0455 | Tophead Assembly | --- |
| 1 | 306D0454 | Tophead Weldment | 1 |
| 2 | 343B0012 | Rotate Bearing | 1 |
| 3 | 371A0548 | Motor, Rotation | 2 |
| 4 | 206B1204 | High Pressure Swivel Assembly | 1 |
| 5 | 306B1605 | Anti-Rotate Bar | 1 |
| 6 | 374A0653 | Proportional Solenoid Driver | 1 |
| 7 | 271B0340 | Rotate Cross-Port Relief Valve Assembly | 1 |
| 8 | 371B0363 | Control Valve Assembly | 1 |
| 9 | 306B1843 | Valve Guard Weldment | 1 |
| 10 | 306B1845 | Formed Plate, Motor Cover | 2 |
| 11 | 306B1840 | Main Cover Plate, Tophead | 1 |
| 12 | 306B1846 | UHMW Spacer | 3 |
| 13 | 5686R-4-4 | Adapter, -4 MORF to -4 MBSP-PORT | 1 |
| 14 | 1030-2-4 | Adapter, 1/8 MNPT to -4 MJIC | 2 |
| 15 | 1031-2-4 | Elbow, 45, -2 MNPT to -4 MJIC | 2 |
| 16 | 1032-2-4 | Elbow 90, 1/8 MNPT to -4 MJIC | 4 |
| 17 | 5658-8-4 | Reducer, -8 FORFS x -4 MORFS | 1 |
| 18 | 5650-6-8 | Straight Fitting -8 MORB to -6 MORFS | 2 |
| 19 | 5655-8-8 | Bulkhead, -8 MFFO to -8 MFFO (c/w Locknut) | 1 |
| 20 | 58T56-8-8 | Tee, -8 MFFO to -8 FFFOS Run to -8 MFFO | 2 |
| 21 | 10HP-8 | Hex Socket Plug, -8 NPT | 2 |
| 22 | 5652-10-10 | Elbow, 90, -10 MORF to -10 MORB | 4 |
| 23 | 5650-10-12 | Straight Fitting, -12 MORB to -10 MORF | 4 |
| 24 | 5650-12-12 | Adapter, -12 MORF to -12 MORB | 2 |
| 25 | 56T58-12-12 | Tee, -12 MORFS RUN X -12 FORFS SWIVEL BRANCH | 2 |
| 26 | 5625S-12-12 | Bulkhead 90 Elbow, -12 MORFS | 3 |
| 27 | 5850 16-12 | Straight Fitting, -16 MORB, -12 FORFS Swivel | 3 |
| 28 | 5652-12-16 | 90 Elbow, -12 MORFS x -16 MORB | 3 |
| 29 | 5650-16-20 | Adapter, -16 MORFS to -20 MORB | 1 |
| 30 | 5652-16-20 | 90 Elbow, -16 MORFS to -20 MORB | 1 |
| 31 | 345A0068 | 1/8" NPT Grease Fitting | 2 |

Tophead Assembly

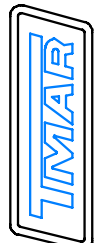
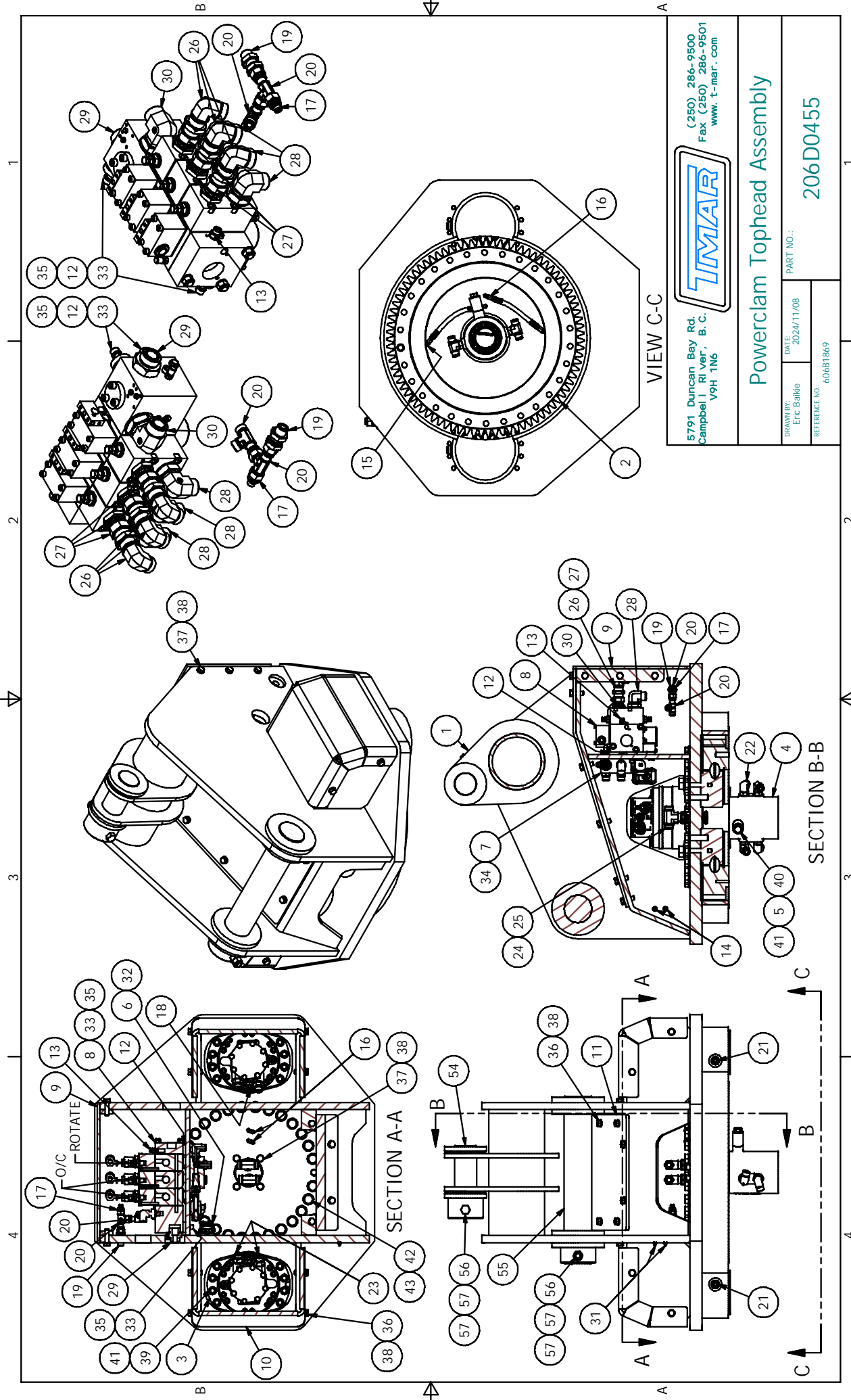
Ref. No:

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Note: All fasteners are steel, and grade 8/10.9 minimum, unless explicitly noted.

| Item | Part No. | Description | Qty. |
|-------------|-----------------|--|-------------|
| 32 | SHP.0141299 | HEX SOCKET BUTTON HD CAPSCREW M4 X 0.7 X 6 | 2 |
| 33 | SHP.39619 | HEX SOCKET HD CAPSCREW M10 X 1.5 X 30 | 3 |
| 34 | SHP.0135958 | HEX SOCKET HD CAPSCREW M10 X 1.5 X 55 | 2 |
| 35 | SHP.1140384 | LOCKWASHER M10 | 3 |
| 36 | SHP.40736 | HEX HD CAPSCREW M14 X 2.0 X 40 | 20 |
| 37 | SHP.40738 | HEX HD CAPSCREW M14 X 2.0 X 50 | 10 |
| 38 | SHP.40255 | LOCKWASHER M14 | 30 |
| 39 | SHP.1139719 | HEX SOCKET HD CAPSCREW M16 X 2 X 55 | 16 |
| 40 | SHP.40764 | HEX HD CAPSCREW M16 X 2.0 X 80 | 1 |
| 41 | SHP.40256 | LOCKWASHER M16 | 17 |
| 42 | SHP.11114488 | HEX HD CAPSCREW M22 X 2.5 X 70 | 29 |
| 43 | SHP.34884 | FLAT WASHER M22, THRU HARD | 29 |
| 54 | 340B0343 | Pin, Tool Cylinder | 1 |
| 55 | 340B0344 | Pin, Stick | 1 |
| 56 | SHP.0154057 | HEX HD CAPSCREW M20 X 2.5 X 170 | 2 |
| 57 | SHP.90713 | HEX NUT M20 X 2.5 | 4 |



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Powerclam Tophead Assembly

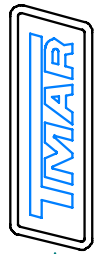
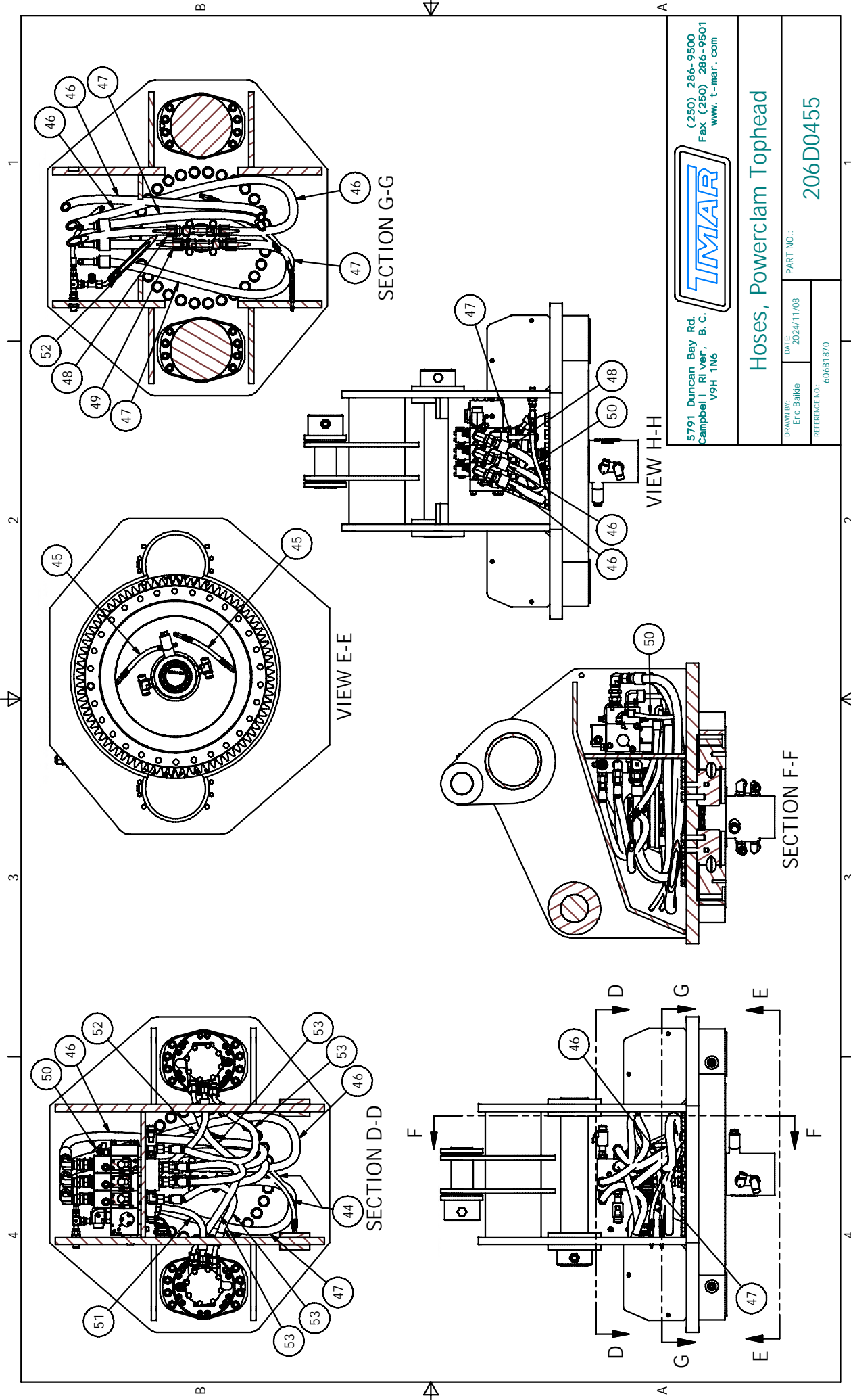
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| DRAWN BY: Eric Baillie | DATE: 2024/11/08 | PART NO.: |
| REFERENCE NO.: | 606B1869 | 206D0455 |

Hoses, Tophead AssemblyRef. No: 606B1870

Rev. 0

Note: All fasteners are steel, and grade 8/10.9 minimum, unless explicitly noted.

| Item | Part No. | Description | Qty. |
|------|----------------|----------------------------|------|
| --- | 206D0455 | Tophead Assembly | --- |
| 44 | 72A2004 CL19 | Hose, Rotek Grease | 2 |
| 45 | 72A2004 CL8 | Hose, Rotek Grease | 2 |
| 46 | 72A6062 CL53 | Hose Assembly, Upper Valve | 2 |
| 47 | 72A6061 CL42 | Hose Assembly, Lower Valve | 2 |
| 48 | 72A6062 CL21.5 | Hose Assembly, Upper Valve | 1 |
| 49 | 72A6061 CL11.5 | Hose Assembly, Lower Valve | 1 |
| 50 | 72A2099 CL16 | Hose Assembly, Valve Drain | 1 |
| 51 | 72A2067 CL19 | Hose Assembly, Case Drain | 1 |
| 52 | 72A2088 CL23 | Hose Assembly, Case Drain | 1 |
| 53 | 72A3060 CL22 | Hose Assembly, Rotate | 4 |



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Hoses, Powerclam Tophead

DRAWN BY: Eric Baikke
DATE: 2024/11/08
REFERENCE NO.: 606B1870

PART NO.:

206D0455

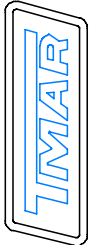
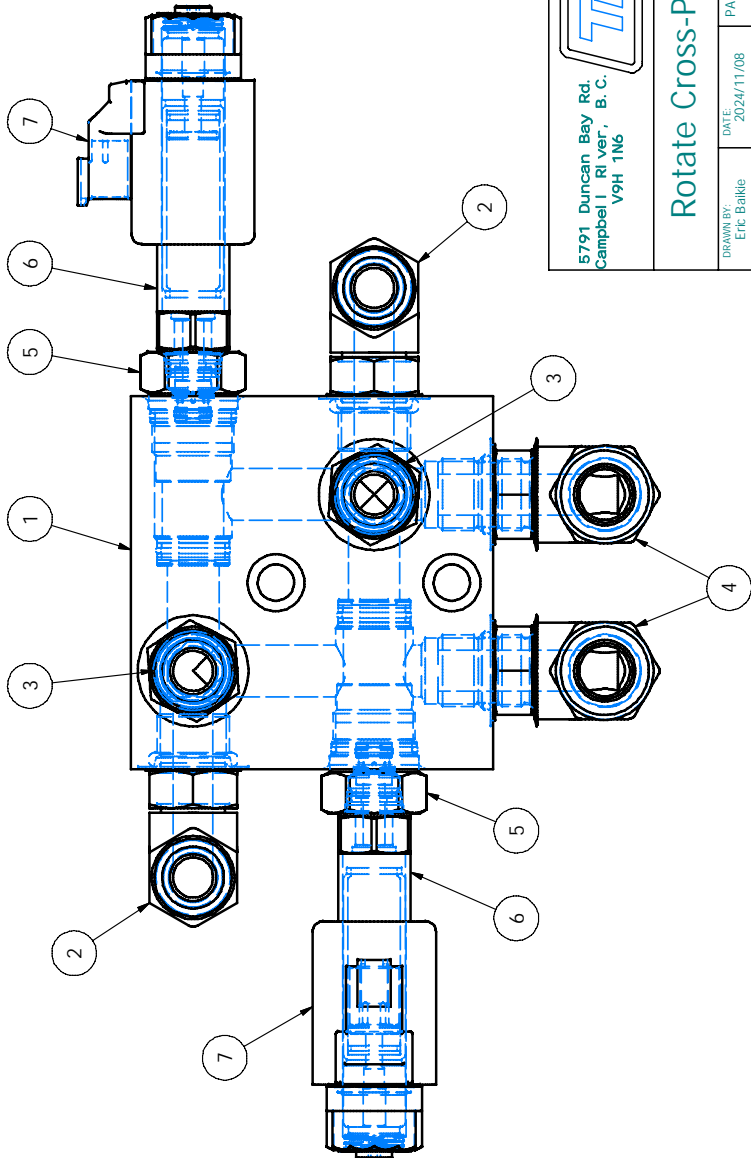
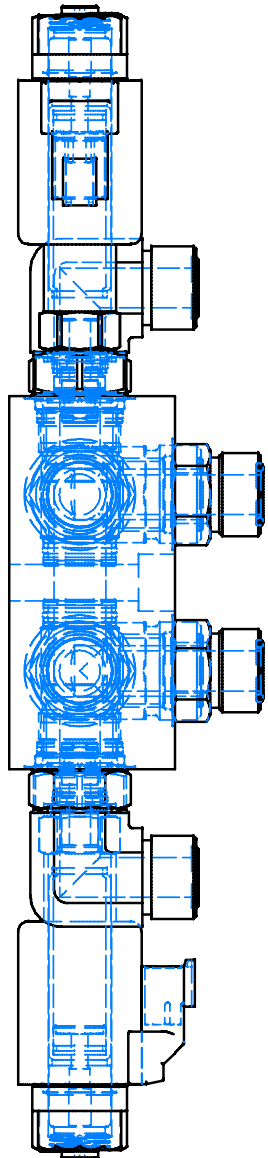
Cross-Port Relief Assembly, FloatRef. No: 606B1871

Rev. 0

Note: All fasteners are steel, and grade 8/10.9 minimum, unless explicitly noted.

| Item | Part No. | Description | Qty. |
|------|------------|---|------|
| --- | 271B0340 | Cross-Port Relief Assembly, Float | --- |
| 1 | 371B0331 | Cross-Port Relief Manifold | 1 |
| 2 | 5652-10-10 | Elbow, 90, -10 MORF to -10 MORB | 2 |
| 3 | 5650-10-10 | Adapter, -10 MORF to -10 MORB | 2 |
| 4 | 5652-12-10 | Elbow, 90, -10 MORB to -12 MORF | 2 |
| 5 | 371A0528 | Pilot Operated Relief Cartridge With Control Cavity | 2 |
| 6 | 371A0529 | Electro-Proportional Pilot Relief Valve | 2 |
| 7 | 371A0279 | 24VDC COIL | 2 |

1 2 3 4



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V9H 1N6

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Rotate Cross-Port Relief Assy, Float

DRAWN BY: Eric Baillie

DATE: 2024/11/08

PART NO.:

271B0340

REFERENCE NO.: 606B1871

B

A

A

B

Midsection Assembly

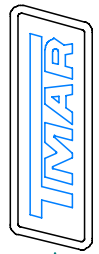
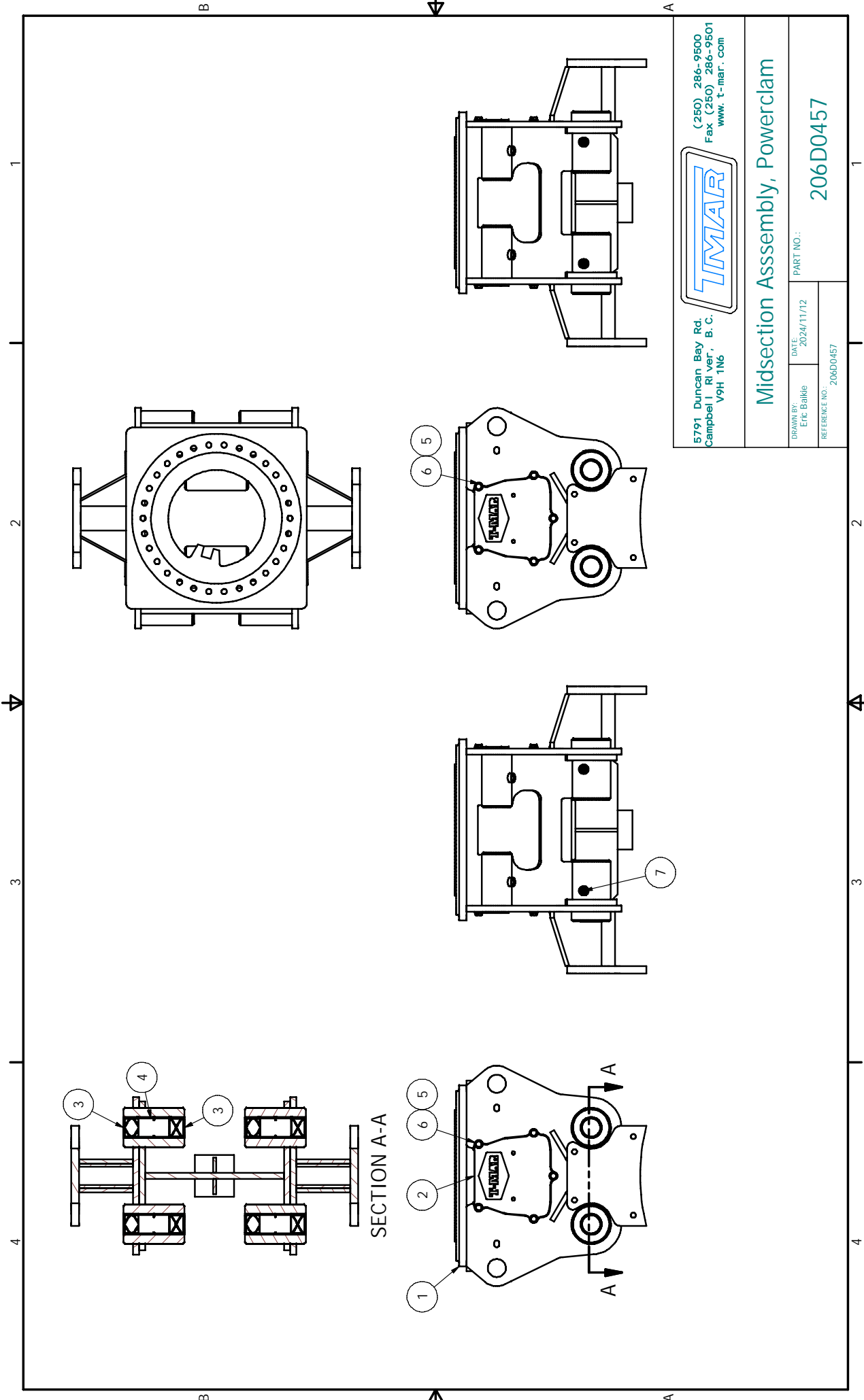
Ref. No:

606B1872

Rev. 0

Note: All fasteners are steel, and grade 8/10.9 minimum, unless explicitly noted.

| Item | Part No. | Description | Qty. |
|-------------|-----------------|--------------------------------|-------------|
| --- | 206D0457 | Midsection Assembly | --- |
| 1 | 306D0458 | Midsection Weldment | 1 |
| 2 | 306B1772 | Door | 2 |
| 3 | 342B0058 | Bushing | 8 |
| 4 | 342B0073 | Spacer Tube | 4 |
| 5 | SHP.34882 | FLAT WASHER M16, HARD | 10 |
| 6 | SHP.40758 | HEX HD CAPSCREW M16 X 2.0 X 50 | 10 |
| 7 | 345A0068 | 1/8" NPT Grease Fitting | 4 |



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Midsection Assembly, Powerclam

| | | |
|---------------------------|---------------------|-----------|
| DRAWN BY: Eric Baillie | DATE: 2024/11/12 | PART NO.: |
| REFERENCE NO.: | 206D0457 | |

Cylinder Assembly

Ref. No:

606B1791

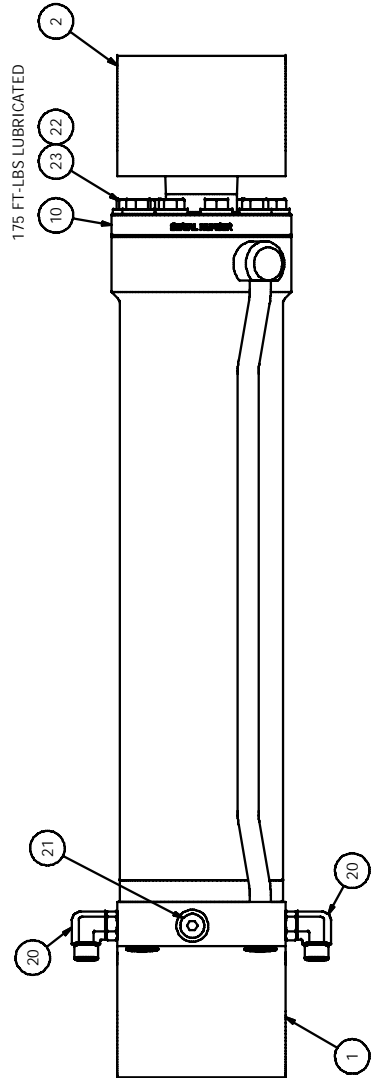
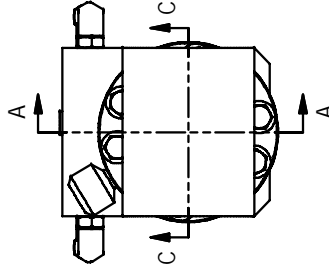
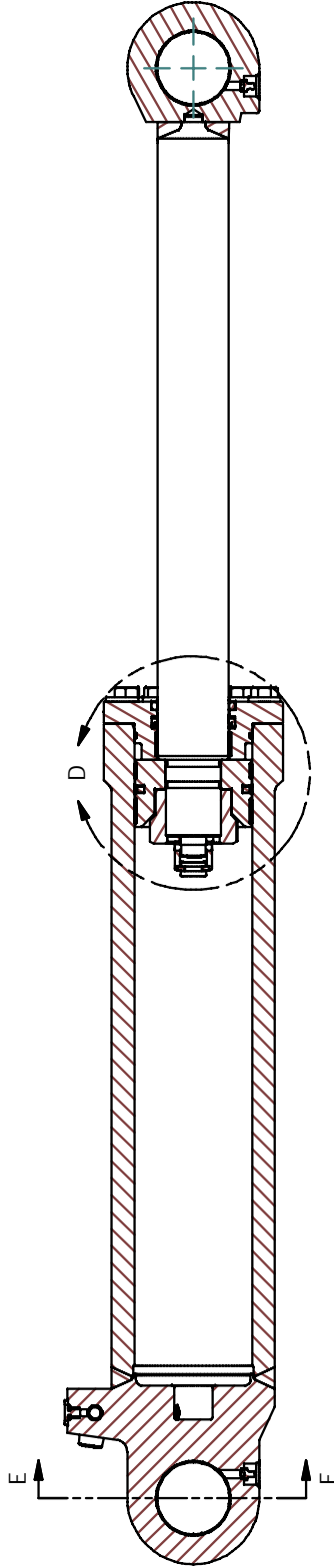
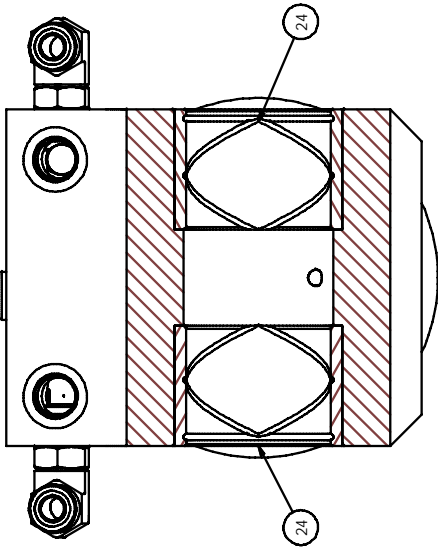
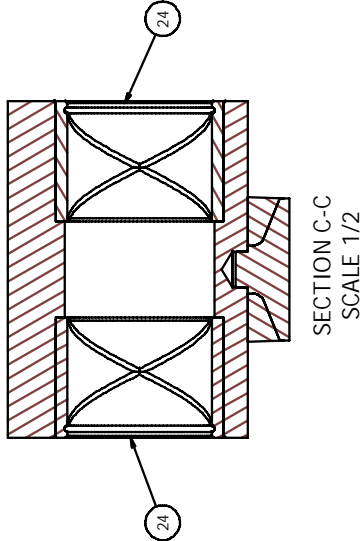
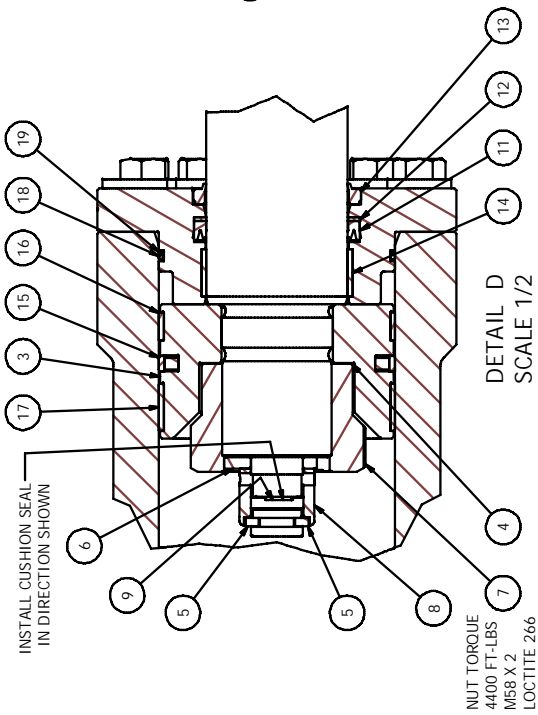
Rev. 0


Note: All fasteners are steel, and grade 8/10.9 minimum, unless explicitly noted.

| Item | Part No. | Description | Qty. |
|------|-------------|----------------------------------|------|
| --- | 270C0106 | Cylinder Assembly | --- |
| 1 | 370C0107 | Cylinder Barrell Weldment, 125mm | 1 |
| 2 | 370B0296 | Rod, Cylinder | 1 |
| 3 | 370C0092 | Piston, Cylinder | 1 |
| 4 | 370A0055 | Shim | 1 |
| 5 | 370A0068 | Stopper | 2 |
| 6 | 370A0099 | Ring Spacer | 1 |
| 7 | 370B0161 | Nut, Piston | 1 |
| 8 | 370A0065 | Ring, Cushion | 1 |
| 9 | 347A0180 | Cushion Seal | 1 |
| 10 | 370C0086 | Gland, Cylinder | 1 |
| 11 | 347A0235 | Rod Seal | 1 |
| 12 | 347A0236 | Backup Ring | 1 |
| 13 | 347A0172 | Rod Wiper | 1 |
| 14 | 347A0237 | Wear Ring, Rod | 1 |
| 15 | 347A0314 | Seal Assembly | 1 |
| 16 | 347A0345 | Wear Ring, 15mm | 1 |
| 17 | 347A0346 | Wear Ring, 25mm | 1 |
| 18 | 347A0315 | O-ring | 1 |
| 19 | 347A0316 | Back Up Ring | 1 |
| 20 | 5652-10-10 | Elbow, 90, -10 MORF to -10 MORB | 2 |
| 21 | 50HP-10 | Hex Socket Plug, -10 ORB | 1 |
| 22 | SHP.34882 | FLAT WASHER M16, HARD | 10 |
| 23 | SHP.0122078 | HEX HD CAPSCREW M16 X 2.0 X 60 | 10 |
| 24 | 342B0058 | Bushing | 4 |
| 25 | 270A0086 | Fastener Kit | 1 |
| 26 | 247A0347A | Seal Kit, Piston & Gland | 1 |

Notes:

1. Exchange cylinders are available on a cost-of-repair basis.




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Cylinders Assembly - Powerclam/Clamshell
 PART NO.: 270C0106
 DATE: 20230322
 DRAWN BY: Eric Burkis
 REFERENCE NO.: 6083191

Assembly, Swivel (HP)

Ref. No: 606B1314

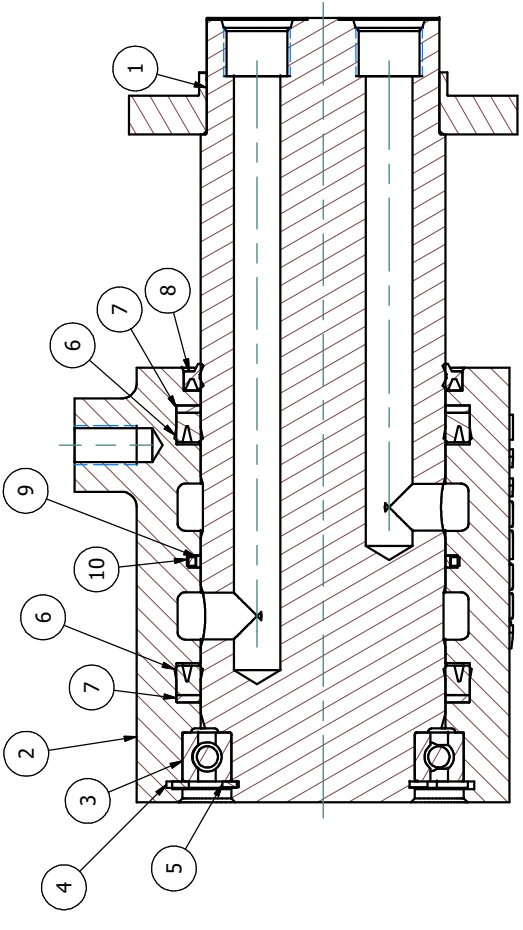
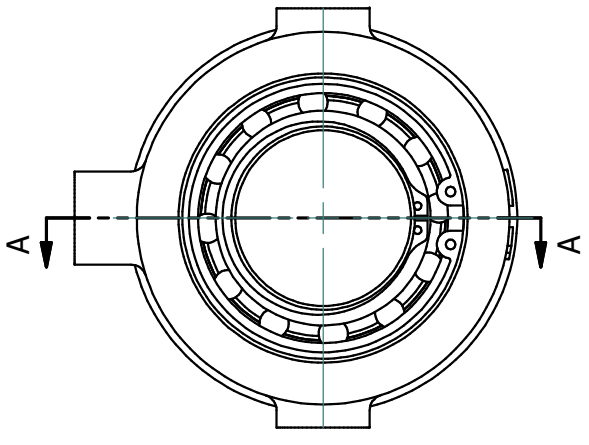
Rev. 0

| Ref. | Part No: | Rev. | Description | Qty. |
|-------------|-----------------|-------------|--------------------------------|-------------|
| --- | 206B1204 | | Complete Assembly | --- |
| 1 | 306B0512 | | Swivel Core Weldment | 1 |
| 2 | 306D0351 | | Housing, Swivel Outer | 1 |
| 3 | 343A0015 | | Bearing | 1 |
| 4 | 348A0023 | | Retaining Ring, Internal | 1 |
| 5 | 348A0012 | | Retaining Ring, External | 1 |
| 6 | 347A0013 | | Seal, U-Cup | 2 |
| 7 | 347A0014 | | Backup Ring | 2 |
| 8 | 347A0015 | | Wiper, Metal Clad | 1 |
| 9 | 347A0188 | | Seal Ring, Carbon Teflon | 1 |
| 10 | 347A0189 | | Seal, Square Ring | 1 |
| 11 | 206A0658 | | Seal Kit (Includes Items 4-10) | 1 |

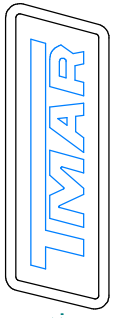
Notes:

- 1.) Exchange swivels are available on a cost-of-repair basis.
- 2.) Swivel core top ports: -12 ORB x 2.
- 3.) Swivel housing side ports: -10 ORB x 4.
- 4.) Mounting Hardware:
 - SHP.40738 (M14 X 2.0 X 50) x 4
 - SHP.40386 (M14 Lock Washer) x 4
 - GTSOR-10 #10 ORB O-rings x 4
 - GTSOR-12 #12 ORB O-rings x 2

1 2 3 4



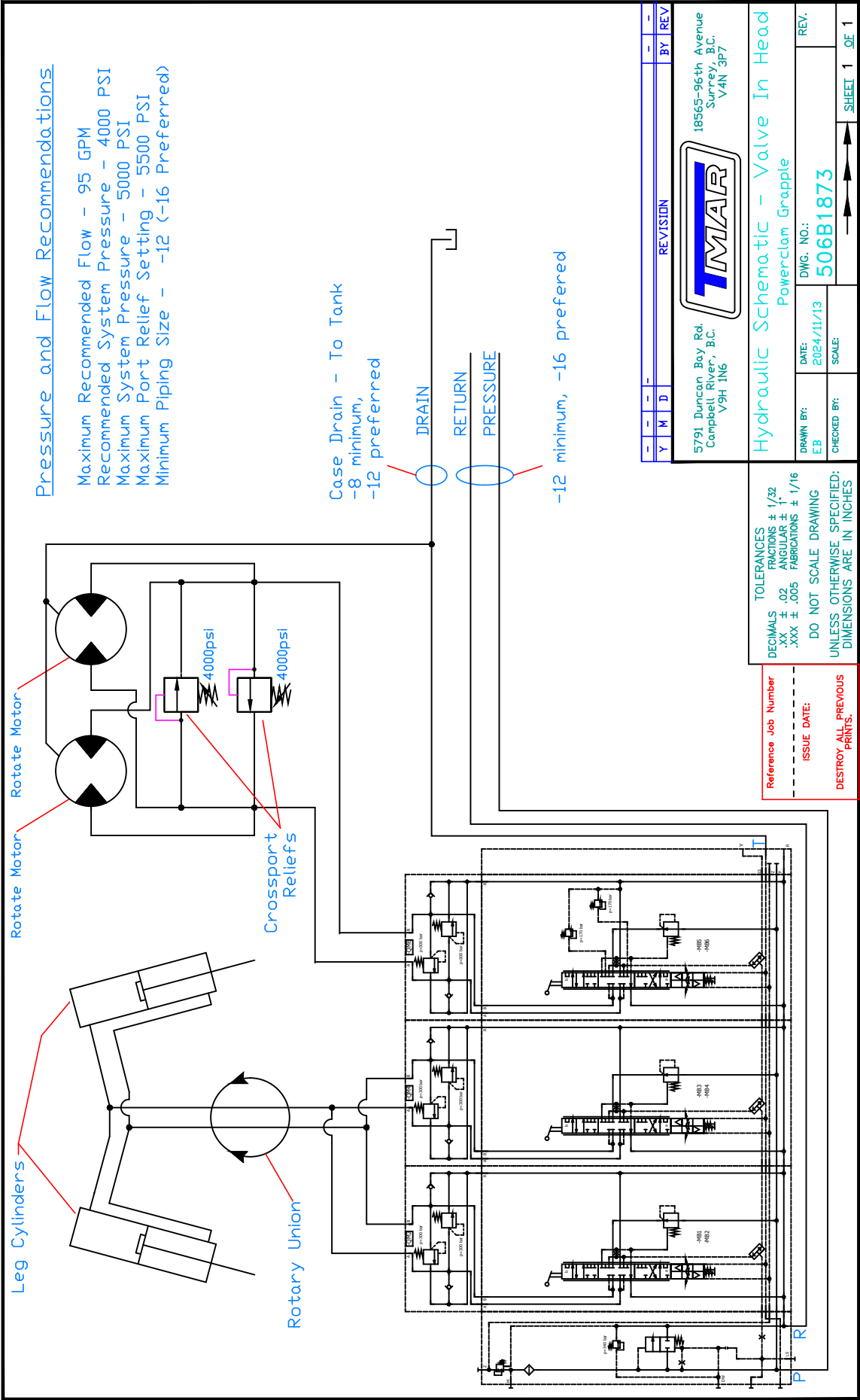
SECTION A-A



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Assembly, Swivel (HP), -10 Ports

| | | |
|--------------------------|-------|------------|
| DRAWN BY: Eric Baikie | DATE: | 05/07/2018 |
| | REF: | 606B1314 |
| DWG NO: | | 206B1204 |



| Y | M | D | REVISION | BY | REV |
|---|---|---|----------|----|-----|
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TMIAR

18565-96th Avenue
Surrey, B.C.
VAN 3P7

Hydraulic Schematic - Valve In Head Powerclan Grapple

DRAWN BY: EB
DATE: 2024/11/13
CHECKED BY:

DWG. NO.: **506B1873**
SCALE:

SHEET 1 OF 1

