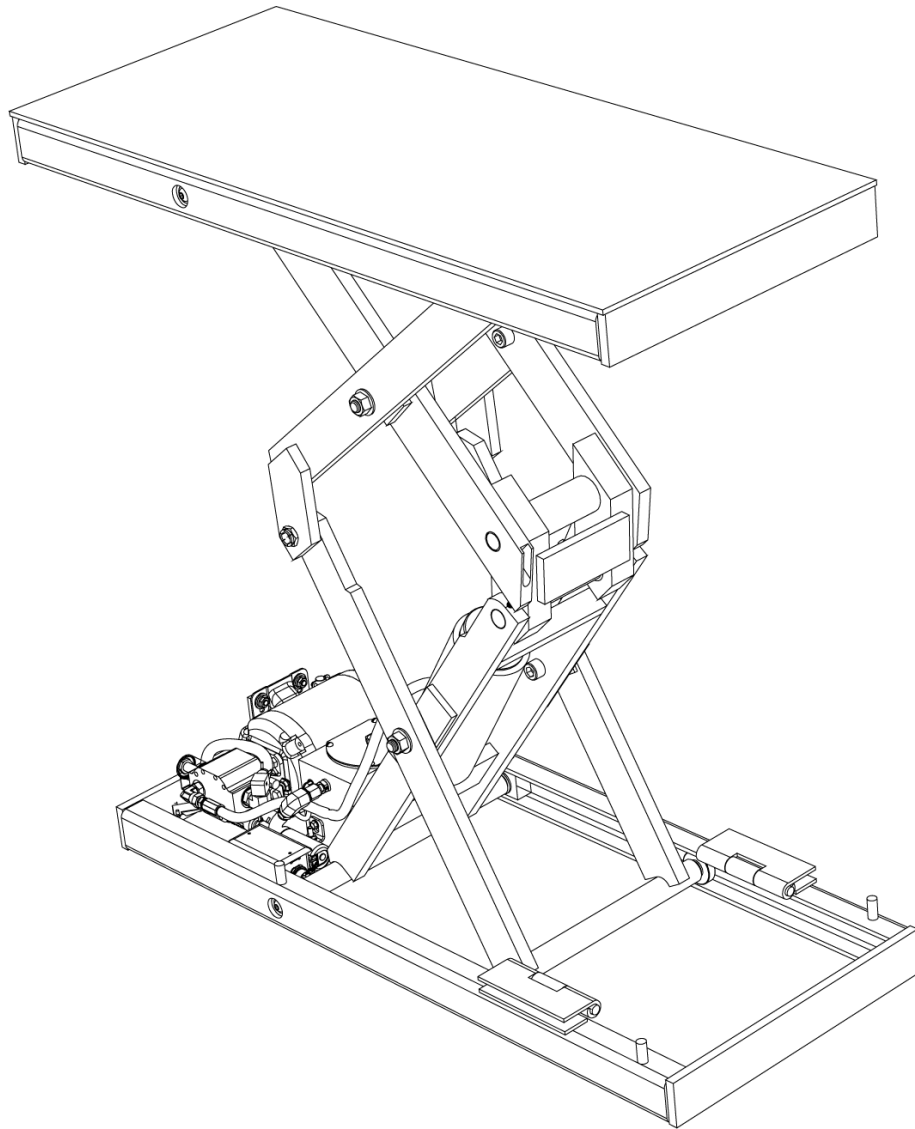


MANUAL DE INSTALACIÓN, OPERACIÓN Y SERVICIO

ELEVADOR COMPACTO



Autoquip
Innovative Lift Solutions

**AMERICAN
LIFTS®**

1058 West Industrial Avenue • Guthrie, OK 73044-1058 • 888-811-9876
405-282-5200 • FAX: 405-282-3302 • www.autoquip.com

Artículo 830AMP

Versión 4.0

Contents

1.	INTRODUCCIÓN Y GARANTIA	3
1.1	Introducción	3
1.1.1	Identificación	3
1.1.2	Inspección	3
1.1.3	Programa de mantenimiento planificado	3
1.2	Responsabilidad de propietarios/usuarios	4
1.2.1	Comba	4
1.2.2	Inspección y mantenimiento	4
1.2.3	Retirada del servicio	4
1.2.4	Reparaciones	4
1.2.5	Operadores	4
1.2.6	Antes de la operación/fore Operation	4
1.2.7	Durante la operación	4
1.2.8	Modifications or Alterations	4
1.3	Warranty	5
2.	Specifications.....	6
2.1	Models	6
2.2	Lift Specifications	6
2.3	Load Capacity	6
2.4	Unbalanced Loading	7
2.5	Pump Pressure	7
2.6	Lift Duty	7
3.	Safety	8
3.1	Safety Signal Words	8
3.2	Installation	8
3.3	Operation	9
3.4	Hydraulics	9
3.5	Maintenance	11
3.6	Modifications	Error! Bookmark not defined.
3.7	Labels	12
4.	Installation	15
4.1	Pit Installation.....	15
4.2	Shimming And Anchoring Lift To Concrete	18
4.3	Remote Power Unit Installation	19
4.4	Power Unit Wiring	19
4.4.1	Contractor Remote Power Unit.....	19
4.4.2	Vertical Remote Power Unit.....	19
5.	Operation	20
5.1	Raise And Lower Lift.....	20
6.	Maintenance	21
6.1	Maintenance Devices	21
6.2	Routine Maintenance	22
6.2.1	Every Day or 10 Hours Of Operation	23
6.2.2	Every Month or 100 Hours Of Operation	23
6.2.3	Every Year or 1000 Hours Of Operation.....	24
6.2.4	Oil Requirements	24
6.2.5	Oil Capacity.....	24
6.3	General Maintenance	25
6.3.1	Hydraulic Cylinder Repair	25
6.3.2	Bleeding Air From System	29
6.3.3	Hydraulic Velocity Fuse (HVF) Replacement	29
6.3.4	Hose Orientation	30
7.	Troubleshooting.....	40
8.	Parts Lists.....	44

I. INTRODUCCIÓN Y GARANTIA

I.1 Introducción

Lea y entienda este manual antes de la instalación o la operación de este elevador. De no hacer esto se podrían producir daños materiales y lesiones personales graves. Si tiene dudas, llame a un distribuidor local o a Autoquip Corporation al 1-888-811-9876 o al 405-282-5200.

Registre la información siguiente y consúltela al llamar a su distribuidor o a Autoquip.

Número de modelo: _____ Número de serie: _____

Fecha de instalación ____/____/____

I.1.1 Identificación

Al pedir piezas o solicitar información o servicio sobre este elevador, CONSULTE EL NÚMERO DE MODELO Y SERIE. Esta información está en una placa de identificación sujeta al conjunto de pata. Se dispone de piezas de repuesto de un distribuidor local de Autoquip.

I.1.2 Inspección

Después de recibir el elevador, efectúe una inspección visual para determinar que el elevador no se haya dañado durante el transporte. Los daños encontrados deben observarse en el recibo de entrega. Además de esta inspección preliminar, inspeccione cuidadosamente el elevador para ver si hay daños ocultos. Los daños ocultos encontrados que no se hayan registrado en el recibo de entrega deben informarse por escrito al transportista en un plazo máximo de 48 horas.

Use la siguiente lista de comprobación para la inspección del elevador:

1. Examine toda la unidad para ver si hay indicios de manipulación indebida. Compruebe con cuidado la unidad de potencia y los botones.
2. Examine completamente todas las conexiones, asegurándose de que no se hayan aflojado debido a las vibraciones durante el tránsito, e inspeccione los cables para ver si hay indicios de daños.
3. Después de la instalación, suba el elevador e inspeccione el bastidor de la base, la plataforma, el conjunto de tijeras y las conexiones de las tuberías de los cilindros

I.1.3 Programa de mantenimiento planificado

Un representante local de Autoquip proporciona una Programa de Mantenimiento Planificado (PMP) para este equipo usando personal capacitado en fábrica. Llame a un representante local o a Autoquip Corporation al 1-888-811-9876 o al 405-282-5200 para obtener información adicional.

I.2 Responsabilidad de propietarios/usuarios

I.2.1 Comba

El usuario/comprador tiene la responsabilidad de comunicar al fabricante si la comba puede ser crítica para la aplicación.

I.2.2 Inspección y mantenimiento

El elevador debe inspeccionarse y mantenerse en orden de trabajo apropiado según el manual de operación y mantenimiento de Autoquip y otras prácticas de operación seguras correspondientes.

I.2.3 Retirada del servicio

Cualquier elevador que no esté en condiciones de operación seguras, como fugas excesivas, piezas o sujetadores que faltan, miembros estructurales doblados o agrietados, cortes o desgaste de líneas eléctricas, hidráulicas o neumáticas, controles o dispositivos de seguridad dañados o de funcionamiento erróneo etc., entre otros, deben retirarse del servicio hasta que sea reparado según las normas del fabricante original.

I.2.4 Reparaciones

Todas las reparaciones deben ser efectuadas por un técnico capacitado según las instrucciones de Autoquip.

I.2.5 Operadores

Solamente se permitirá a personal capacitado y autorizado que haga funcionar el elevador.

I.2.6 Antes de la operaciónefore Operation

Antes de usar el elevador, el operador debe hacer lo siguiente:

- Leer o haber explicado, y entendido las instrucciones de operación del fabricante y las reglas de seguridad.
- Inspeccionar el elevador para ver si su funcionamiento y condición son apropiadas. Examinar con cuidado cualquier artículo sospechoso y que una persona capacitada determine si constituye un peligro. Todos los artículos que no cumplan con la especificación de Autoquip debe corregirse antes de hacer funcionar el elevador.efore using lift, operator must:

I.2.7 Durante la operación

Use el elevador según el manual de operación y mantenimiento de Autoquip.

- No sobrecargue el elevador.
- Verifique que todos los dispositivos de seguridad estén funcionando y estén colocados.
- Autoquip garantiza 60.000 ciclos de este elevador cada año de garantía. Este número de ciclos representa un solo servicio de turno normal. Al exceder este número de ciclos se acorta la duración del elevador y de la garantía.

I.2.8 Modifications or Alterations

Modifications or alterations to this equipment may be made only with written permission of Autoquip. Unauthorized modification or alteration will void warranty.

I.3 Garantía

El usuario es únicamente responsable de usar este equipo de manera segura y de observar todas las guías de seguridad proporcionadas en el manual del propietario y en las etiquetas de advertencia proporcionadas con el elevador. Si no puede localizar el manual o las etiquetas de advertencia, póngase en contacto con Autoquip o acceda a www.autoquip.com para obtener descargas o información de reemplazo.

Autoquip Corporation garantiza expresamente que este producto no tendrá defectos de material y mano de obra en condiciones de uso normales y previstas durante un período de Dos (2) años por mano de obra y todos los componentes eléctricos y mecánicos, piezas o dispositivos, y justifica la estructura del elevador contra la rotura o la falla durante un período de Cinco (5) años. El período de garantía empieza en la fecha de envío. Al hacer una reclamación, envíe inmediatamente a su distribuidor o a Autoquip el aviso de su reclamación. Todas las reclamaciones deben ser recibidas por Autoquip durante el período de garantía. La responsabilidad máxima de Autoquip, según esta Garantía Limitada, se limita al reemplazo del equipo.

Esta garantía no se debe aplicar a ningún elevador de Autoquip o piezas del elevador de Autoquip que hayan sido dañadas o se hayan roto durante el transporte/envío, o debido directa o indirectamente a usos indebidos, abusos, impactos en el vehículo, negligencia, instalaciones defectuosas, incendios, inundaciones, fuerza mayor, accidentes o que se hayan usado de una manera contraria a las limitaciones o recomendaciones del fabricante según se indica en el manual, o que se hayan reparado, alterado o modificado de cualquier forma fuera de la fábrica de Autoquip Corp o que no hayan sido autorizadas expresamente por Autoquip.

Autoquip Corporation no garantiza ni se manifiesta en lo que respecta al cumplimiento de cualquier equipo con los códigos de las normas estatales o locales de seguridad y productos, y ningún incumplimiento de dichos códigos debe considerarse un defecto de material o fabricación según esta garantía. Autoquip Corporation no debe ser responsable de ningún daño directo o emergente que sea consecuencia de dicho incumplimiento.

La obligación de Autoquip Corporation según esta garantía se limita al reemplazo o a la reparación de componentes defectuosos en su fábrica o en otro lugar a discreción de Autoquip Corp sin costo para el propietario. Este es el remedio exclusivo del propietario. Las piezas de repuesto (con excepción de los componentes eléctricos) estarán garantizadas durante un período de noventa (90) días. Excepto según se indica aquí, Autoquip Corporation no será responsable de ninguna pérdida, lesión o daño a personas o propiedad, ni de daños directos, indirectos o emergentes de ninguna clase, debidos a una falla o a la operación defectuosa de dicho equipo. Todas las piezas usadas para reemplazar el material defectuoso deben ser piezas Autoquip originales para que estén cubiertas por esta Garantía Limitada.



AUTOQUIP CORP
P.O. Box 1058, Guthrie, OK 73044-1058
Teléfono: (888) 811-9876 · (405) 282-5200
Fax: (405) 282-3302
www.autoquip.com

2. ESPECIFICACIONES

2.1 Modelos

Modelo	Capacidad de levantamiento (lb)	Desplazamiento (pulg)	Altura bajada (pulg)	Altura subida (pulg)	Carga máxima del extremo (lb)	Carga lateral máxima (lb)	Plataforma estándar mínima (pulg)	Tiempo de subida (seg)	No. de cilindros	Peso de envío (lb)
P-25-005	500	25	5	30	250	125	12 x 25	14	1	220
P-30-010	1000	30	6.25	36.25	500	250	16 x 34	18	1	290
P-36-020	2000	36	6	42	1000	500	18 x 42	35	1	390
P-36-040N	4000	36	7	43	2000	1000	19 x 48	30	1	700
P-36-040	2000	36	7	43	2000	1000	24 x 48	30	1	825
P-36-060	6000	36	8	44	3000	1500	24 x 48	40	1	965
P-36-120	12000	36	10	46	6000	2500	36 x 56	80	2	2445
P-48-015	1500	48	6	54	750	375	24 x 52	35	1	425
P-48-030	3000	48	7	55	1500	750	24 X 60	30	1	870
P-48-040	4000	48	8	56	2000	1000	24 x 60	40	1	1025
P-48-120	4000	48	12	60	6000	2500	36 x 60	72	2	2520
P-60-020	2000	60	7	67	1000	500	24 x 72	30	1	980
P-60-030	3000	60	8	68	1500	750	24 X 72	40	1	1200
P-60-060	6000	60	10	70	3000	1500	32 X 72	80	2	2020
P-72-020	2000	72	10	82	1000	500	24 X 78	40	1	1700
P-72-040	4000	72	10	82	2000	1000	32 X 84	80	2	2600
P-84-020	2000	84	10	94	1000	500	32 x 86	50	1	2475
P-84-040	4000	84	10	94	2000	1000	32 x 86	80	2	2745

2.2 Especificaciones del elevador

Solamente se muestran modelos estándar en la tabla de especificaciones. Hay muchos diseños especiales cuyas especificaciones pueden variar con respecto a éstas. Consulte el dibujo de configuración general específica para obtener las especificaciones para diseños específicos de las aplicaciones.

2.3 Capacidad de carga

La capacidad nominal de carga está estampada en una placa metálica sujeta al elevador. Esta cifra es una capacidad nominal neta para un elevador suministrado con una plataforma estándar. Si se instalan artículos opcionales en el elevador después de salir del fabricante, reste el peso de éstos de la carga nominal para obtener la capacidad neta.

No exceda la capacidad nominal del elevador. La carga del elevador más allá de su capacidad nominal es peligrosa, acortará la duración de la operación del elevador, y anulará la garantía.

2.4 Carga desequilibrada

La estabilización proporcionada es básicamente para cargas equilibradas. Si los accesorios especiales se extienden más allá de las dimensiones de longitud y ancho de la plataforma, la capacidad del extremo o lateral se reduce en un 2% por cada extensión de una pulgada desde el centro. Si la carga rueda sobre la plataforma (en cualquier posición menos la completamente bajada), la capacidad de carga de extremo o lateral se reduce en un factor de impacto del 50% (es decir, divida la carga nominal de extremo/lateral por 1.50 para establecer una carga "axial" disponible).

2.5 Presión de la bomba

Este elevador dispone de una bomba exclusiva integrada de desplazamiento positivo. Por lo tanto, los modelos fabricados estándar de la misma fábrica no pueden reemplazarse.

La bomba puede operar de forma eficiente a presiones intermitentes de hasta 2000 psi y servicio continuo a 1500 psi. La válvula de alivio de seguridad instalada en fábrica en la bomba está fijada en fábrica para permanecer dentro de los parámetros de requisitos de la bomba y del elevador.

2.6 Servicio del elevador

Los elevadores estándar Autoquip incluyen típicamente motores de servicio intermitente y están diseñados para "ciclar" (una operación de "subida" completa y una de "bajada" completa) con una frecuencia inferior de cada dos minutos – o aproximadamente 60.000 veces (ciclos) por año. Esto se considera servicio "normal".

El usuario es responsable de notificar a Autoquip siempre que una aplicación específica exija probablemente un servicio "por encima de lo normal" del elevador. El servicio por encima de lo normal requiere típicamente características de diseño complementario para mejorar la duración y evitar la pérdida de la garantía.

3. SEGURIDAD

3.1 Palabras de señales de seguridad

Este manual del propietario cubre el elevador T1 Torklift producido por Autoquip. Antes de instalar, operar o efectuar el servicio del elevador, debe leer, entender y seguir las instrucciones y advertencias de seguridad de este manual. Es posible que el elevador no disponga de algunos equipos opcionales mostrados en este manual.

La información de seguridad en este manual viene indicada por el símbolo de alerta de seguridad: **!**

El nivel de riesgo viene indicado por las siguientes palabras de señales.

! PELIGRO

PELIGRO – Indica una situación peligrosa, que, de no evitarse, producirá la muerte o lesiones graves.

! ADVERTENCIA

ADVERTENCIA – Indica una situación peligrosa, que, de no evitarse, producirá la muerte o lesiones graves.

! PRECAUCIÓN

PRECAUCIÓN – Indica una situación peligrosa, que, de no evitarse, producirá lesiones menores o moderadas.

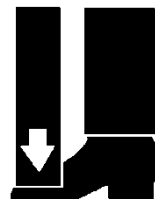
AVISO

AVISO – Indica una situación que puede dañar el elevador u otras propiedades.

3.2 Instalación

! ADVERTENCIA

No instale el elevador en un foso a menos que tenga un protector biselado de dedos del pie u otro protector de dedos del pie aprobado. Puede existir un punto de cizallamiento que puede causar lesiones graves en los pies.



Las plataformas de elevación que se desplacen por debajo de niveles del piso pueden crear un peligro para los dedos del pie ya que la carga pasa por el borde superior del foso. Esto puede requerir protectores según el reglamento federal. Los protectores deben instalarse antes de hacer funcionar el elevador

¡ ADVERTENCIA

Impida lesiones graves o la muerte.

Dependiendo del modelo, el peso del elevador varía de 220 a 2.600 lb.

Use un dispositivo de levantamiento nominal adecuado para mover e instalar el elevador.

3.3 Operación

¡ ADVERTENCIA

Impida lesiones graves o la muerte.

Los elevadores de tijera están diseñados para una carga y una aplicación específicas. No cambie la carga o la aplicación con respecto a su diseño original.

La sobrecarga, o carga desigual, podría causar la inestabilidad de la carga y lesiones personales graves.

No se acerque al elevador mientras esté en movimiento.

No se ponga nunca de pie, ni se siente ni se desplace en un elevador.

¡ ADVERTENCIA

Impida lesiones graves o la muerte.

Los elevadores que se desplazan a una elevación por encima del nivel del piso donde la distancia entre el piso y el lado inferior de la plataforma de elevación sea mayor que 60" debe tener el mecanismo de tijera protegido según ANSI MH29.1.

3.4 Sistema hidráulico

Los fluidos pueden ser peligrosos. Antes de efectuar el servicio del elevador, compruebe la hoja de datos de seguridad de materiales (MSDS) para entender el producto, los procedimientos de manipulación seguros y las medidas de primeros auxilios relacionados con el producto. Siga esta información al efectuar el servicio o reparar el elevador.

No drene ni vierta fluidos o lubricantes en el suelo. Pida a la información de desecho correcta a las agencias medioambientales locales, a los centros de reciclaje o a su distribuidor Autoquip.

¡ PRECAUCIÓN

En cualquier momento en que se accionen los fusibles de velocidad, investigue la causa del accionamiento y verifique las acciones correctoras necesarias que se hayan tomado antes de la operación del elevador.

¡ ADVERTENCIA

Impida lesiones graves o la muerte.

No trate de quitar el fusible de velocidad hidráulica (HVF) hasta que el dispositivo de mantenimiento soporte firmemente el elevador y se haya aliviado toda la presión hidráulica.

El HVF está sujeto al codo en el orificio de la varilla del cilindro. No use una conexión giratoria entre el HVF y el cilindro. Si el HVF está instalado indebidamente, no se trabará en caso de falla de una tubería hidráulica.

¡ ADVERTENCIA

Los fluidos a presión pueden penetrar en la piel.

Las mangueras hidráulicas pueden romperse por edad, daños y exposición.

No busque fugas hidráulicas sin protegerse el cuerpo y la cara, Una fuga diminuta casi invisible puede penetrar en la piel, requiriendo así una atención médica inmediata.

Use madera o cartón para detectar fugas hidráulicas, nunca las manos



¡ ADVERTENCIA

Los fluidos y lubricantes derramados pueden ser resbaladizos y también pueden representar un peligro de incendio.

Limpie los fluidos y lubricantes derramados.



3.5 Mantenimiento

¡ ADVERTENCIA

Impida lesiones graves o la muerte.

Desconecte o desbloquee el suministro eléctrico para alimentar la unidad antes de que se efectúe cualquier tarea de mantenimiento.



¡ ADVERTENCIA

Impida lesiones graves o la muerte.

No se ponga nunca debajo del elevador hasta que se retire la carga y el mecanismo de las tijeras esté fijamente bloqueado en la posición subida con los dispositivos de mantenimiento.



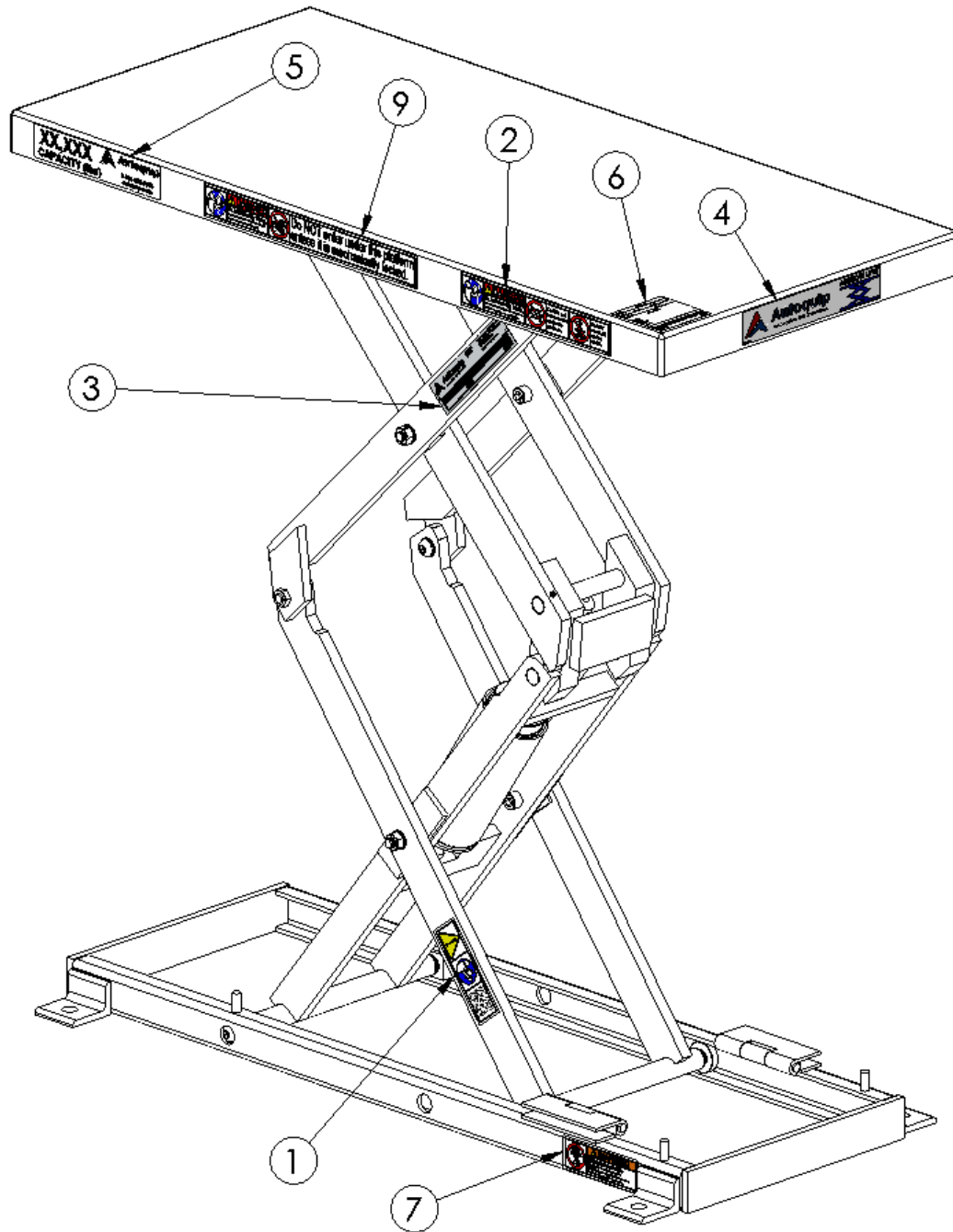
3.6 Modificaciones

¡ ADVERTENCIA

Impida lesiones graves o la muerte.

No modifique el elevador. Autoquip no puede prever y no es responsable de lesiones o daños que se deban a modificaciones desautorizadas o al uso indebido del elevador.

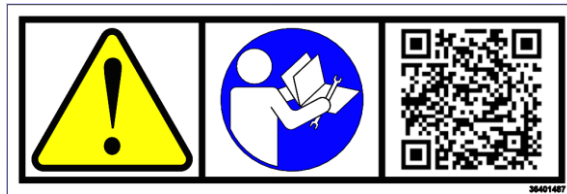
3.7 Etiquetas



i WARNING

To protect against death or serious injury, all labels must be on lift and must be legible.

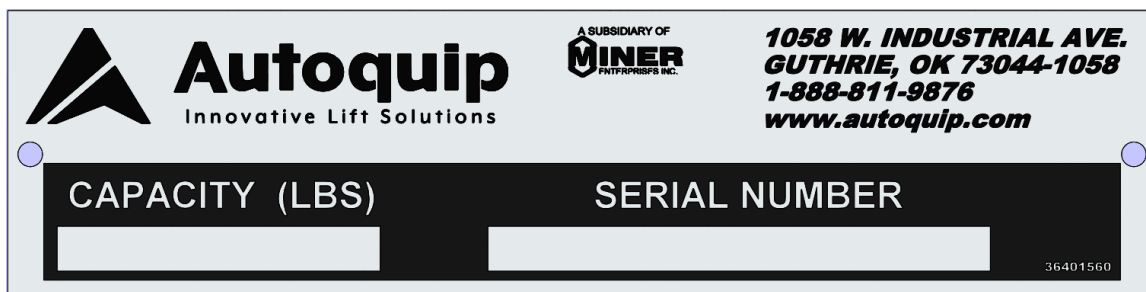
If any of these labels are missing or cannot be read, call Autoquip for replacement labels.



1 – 36401487



2 – 36430050



3 – 36401560



**AMERICAN
LIFTS[®]**

4 – 36403230

XX,XXX CAPACITY (lbs)



Autoquip

Innovative Lift Solutions

1-888-811-9876

autoquip.com

5- DECAL_CAPACITY

JOB NO.		MODEL NO.	
MOTOR	VOLTS	CYCLE	PHASE
CONTROL		VOLTS	
WIRE CODE			
BLACK -			
WHITE -			
RED -			
ORANGE -			
BLUE -			
GREEN -			
<p>TO OBTAIN PROPER ROTATION ON 3 PHASE UNITS-RUN PUMP MOTOR 5 TO 10 SECONDS ONLY- IF LIFT DOES NOT RISE CHANGE ROTATION.</p> <p style="text-align: right;">PN 364-0334-3</p>			

6 - 36403343

! WARNING

Maintenance Device
 For use ONLY in maintenance of LIFT.
 NOT to be used to support the lift when loaded.
 See instruction manual for proper usage.

36400257

7 - 36400257

! DANGER

Do NOT enter under this platform unless it is mechanically locked.

To avoid bodily injury,
read and understand all instructions
before operating or servicing lift.

36433670

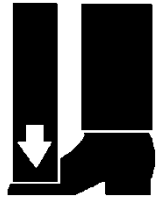
9 - 36433670

4. INSTALLATION

4.1 Pit Installation

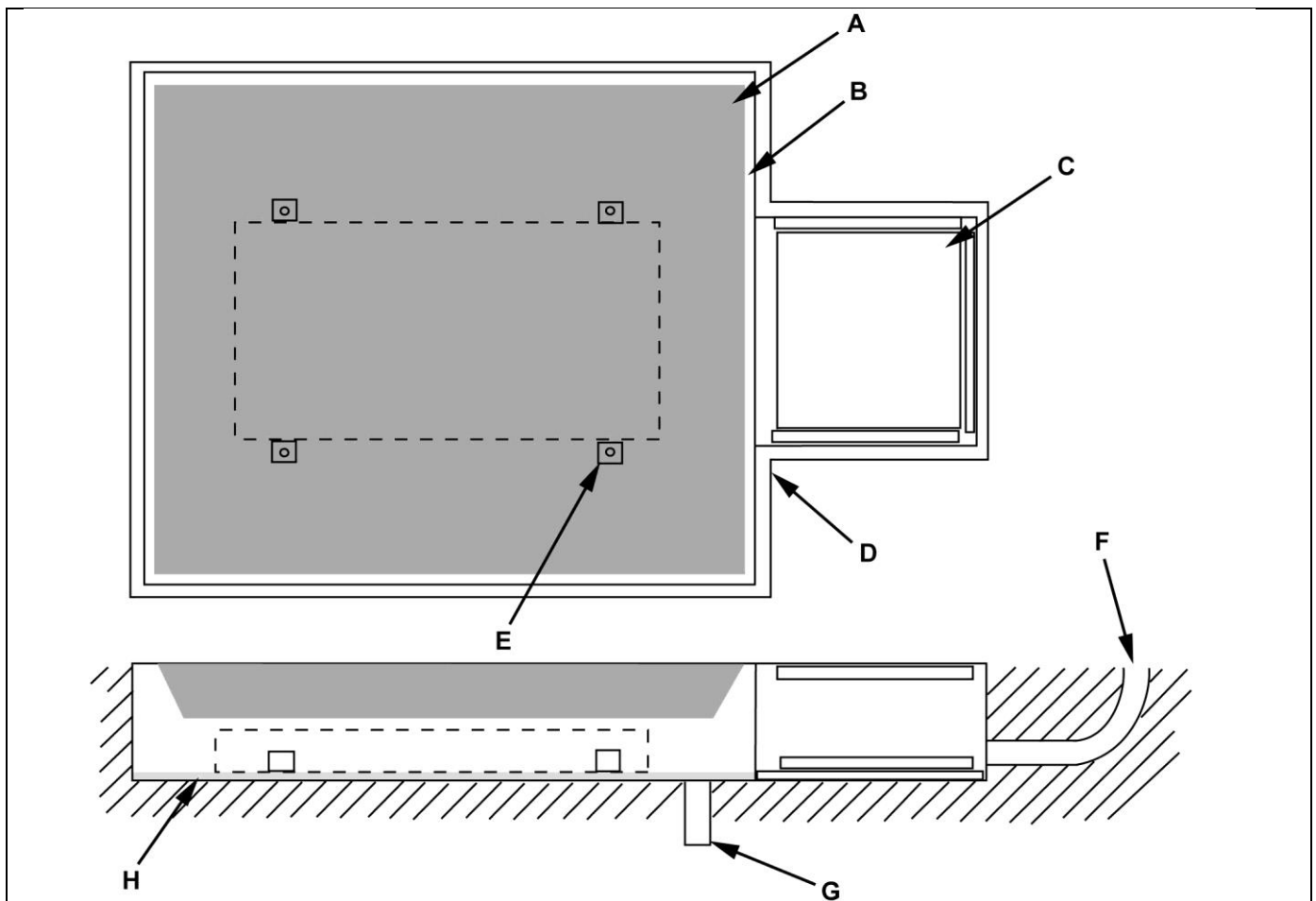
i WARNING

Do not install lift in a pit unless pit has a bevel toe guard or other approved toe protection. A shear point may exist which can cause severe foot injury.



Lift platforms traveling below floor levels may create a toe hazard as load passes top edge of pit. This may require guarding in accordance with Federal Regulations. Guarding must be installed prior to operating lift.

1. Check pit dimensions. Pit must be 2" longer and 2" wider than lift platform to allow a 1" gap between platform and pit. Pit depth should allow $\frac{1}{2}$ " for shims or grout.
2. Conduit (F) diameter must be a minimum of 2".



A – Lift Platform

B – 1" Gap Between Deck And Pit Wall

C – Pit Access Hatch, Optional, Installed By Customer

D – Pit Curb Angle, Suggested Min. L2" x 2" x $\frac{1}{4}$ ", Cust. Inst.

E – Lift Anchor Points (4)

F – 2" Min. Conduit, Cust. Inst.

G – Suitable Pit Drain, Cust Inst.

H – $\frac{1}{2}$ " Grout Under Base

- Verify installation area is clean before starting. Check mounting surface of pit floor with a level or straight edge. If floor is not level, add shims or grout under entire perimeter of base to achieve a level and flat base installation. A level base is essential for proper wheel tracking and smooth lift operation.

i WARNING

Prevent serious injury or death.

Depending on model, weight of lift ranges from 220 – 2600 lbs.

Use a properly rated lifting device to move and install lift.

- Lower lift into pit and check for proper height. Lift must be solid and flush with pit angle framing (D). If needed, shim to desired height. DO NOT “spot” shim. Shim along full length of frame. This will prevent frame from sagging under load.

i WARNING

Prevent serious injury or death.

Electrical service installation must be performed by a licensed electrician and conform to all local and national electrical codes.

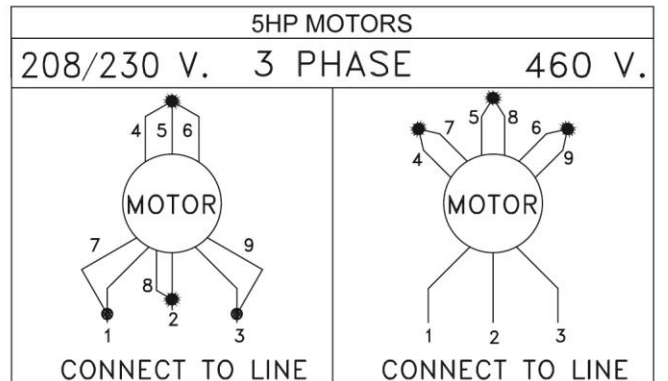
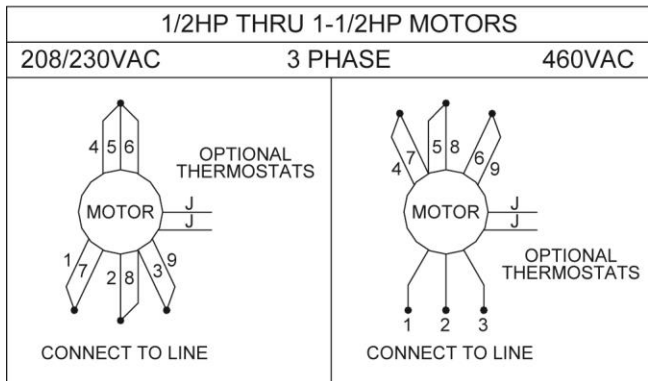
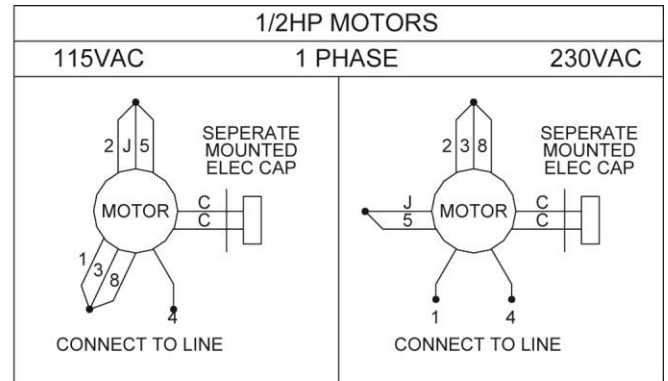
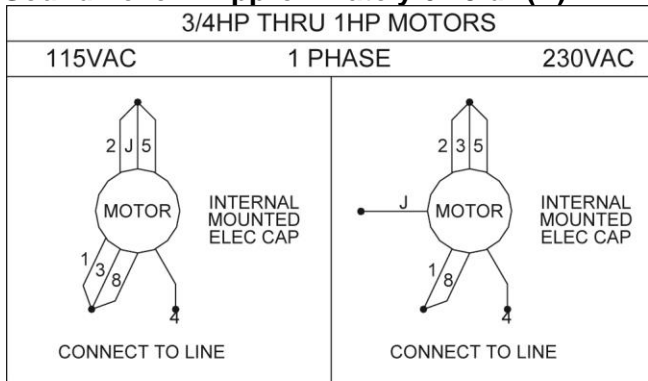


NOTE: For larger horsepower motors, consult factory.

Motor Details					Full Load Amps			
HP	HZ	P H	RPM	TIME RATIN G	@115V AC	@208V AC	@230VA C	@460VA C
1/2	60	1	1725	30 MIN	8.4	-	4.2	-
3/4	60	1	1725	15 MIN	13.6	-	6.8	-
1	60	1	3450	5 MIN	12.8	-	6.4	-
1/2	50/6 0	3	1425/172 5	30 MIN	-	-	1.8	0.9
3/4	50/6 0	3	1425/172 5	15 MIN	-	-	2.6	1.3
1	50/6 0	3	2850/345 0	30 MIN	-	-	3.0	1.6
1- 1 / 2	50/6 0	3	1425/172 5	30 MIN	-	-	4.6	2.3
5 I D	60	3	3450	2 MIN	-	15.8	14.8	-
5 I D	60	3	3450	2 MIN	-	-	-	7.4
5 H D	60	3	3475	30 MIN	-	16.0	15.2	-

5	60	3	3475	30 MIN	-	-	-	7.6
H								
D								

Sound Level – Approximately 67.5 dB(A)



5. Temporarily connect electrical service and hydraulic hoses.
6. Fill hydraulic reservoir with proper type and volume of fluid.
7. Press "UP" operator control and raise lift one foot.
8. Press "DOWN" operator control and lower lift. Continue to hold down control for 60 seconds. Repeat procedure five to seven times to bleed air out of hydraulic system.
9. Raise and lower lift as needed to make positioning adjustments.
10. Adjust platform to a clearance of 1" minimum around perimeter between platform and pit angle.

WARNING

NEVER go under a raised lift platform until load is removed and lift is securely blocked in raised position with maintenance devices.

See "Maintenance Device" section of this manual.

Lock-out/tag-out power source.

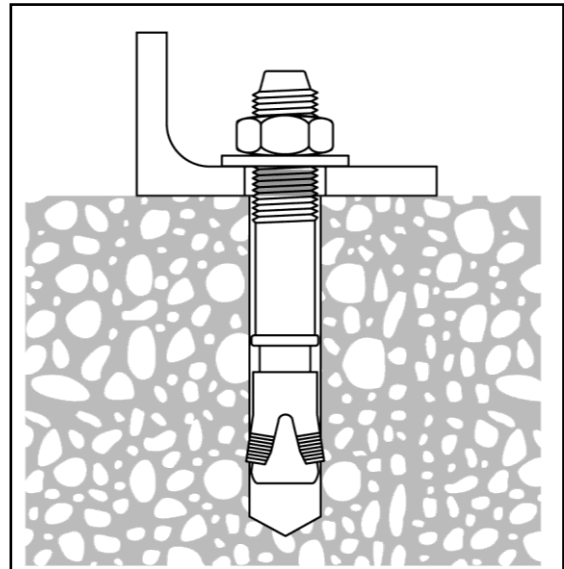


11. Base frame of lift has pre-drilled holes for anchoring floor. Anchor lift to floor. Lifts with oversize platforms have minimum pull out requirements of 2,000 lbs. for each anchor. See “Shimming And Anchoring Lift To Concrete”.
12. Route hydraulic hose or electrical cord through conduit in pit wall.
13. Make permanent electrical and hydraulic connections and operate lift through a few cycles.
14. Clean up debris and spilled oil from area. Dispose of oil in an environmentally safe manner.
15. Touch-up paint is available from *Autoquip* for repair of damaged paint surfaces.
16. Train personnel on lift operation, all safety features and procedures.

4.2 Shimming And Anchoring Lift To Concrete

Recommended concrete anchor bolts are: HILTI “Kwik-Bolt”, Molly Parabolts or similar.

1. Verify lift is positioned correctly.
2. Drill holes in concrete as specified by anchor bolt manufacturer.
3. Install and tighten anchors as specified by anchor bolt manufacturer.
4. After lift has been aligned, leveled and shimmed, and anchors have been installed, pour grout under entire base frame.
5. When grout has set and cured, tighten nuts on anchor bolts.



4.3 Remote Power Unit Installation

1. The remote power unit is to be located in an area protected from the elements and should be installed prior to the lift to facilitate lift operation during installation into the pit.
2. The remote contractor power unit is equipped with power unit mounting brackets and can be wall or floor mounted using these brackets. If equipped with a vertical power unit, optional power unit mounting brackets must be used for wall mounting.
3. The electrical work is to be done in accordance with local codes by a qualified electrician. See the "Maintenance" section for the standard wiring diagram.
4. If permanent electrical work is not complete, some means of temporary power with an on/off device for the motor will be required.
5. Fill the reservoir with oil per instructions in the "Maintenance" section.

4.4 Power Unit Wiring

4.4.1 Contractor Remote Power Unit

1. The Contractor Power Unit utilizes a 5 HP / 208-230-460 Volt / 60 hertz / 3 phase "Super-Torque" intermittent duty motor with (one full lift cycle per 2 minute period) driving a high pressure positive displacement pump assembly with an internal relief valve, check valve and down solenoid valve.
- 2.
3. Because an Autoquip "Super-Torque" motor actually delivers substantially more horsepower than the nameplate rating, it must always be wired for heavier current-draw than standard motors of the same nameplate rating. However, because of the "Super-Torque" motor's starting efficiency and superior running characteristics, circuit components do not have to be as large as for standard motors of equal delivered horsepower.

4.4.2 Vertical Remote Power Unit

1. The Vertical 'HD' Power unit utilizes a 5 HP/ 208-230-460 Volt / 60 hertz / 3 phase Heavy Duty motor, (with a 30 minute continuous duty rating). The power unit is coupled with a high-pressure positive displacement gear pump, and Autoquip Corporation's patented Deltatrol valve assembly.
- 2.
3. The motor connection diagram, should be referenced in connecting the motors to a power source. Remember that heavy wire must be used all the way to the power source.

5. OPERATION

5.1 Raise And Lower Lift

i WARNING

Prevent serious injury or death.

Before operating lift, all personnel interacting with lift must read, understand and follow instructions and safety warnings in this manual.

NOTICE

Adjusting safety relief valve may result in premature motor failure.

Do not adjust safety relief valve.

Raising loads exceeding rated capacity of lift may result in excessive wear and damage to lift.

i WARNING

Prevent serious injury or death.

Personnel must maintain a safe operating distance of at least 36" any time lift is operated.

1. Verify all personnel are away from lift.
2. Press "UP" operator control to raise lift. Release control when lift reaches desired position.

NOTICE

Do not operate lift on relief for more than a few seconds. When on relief, valve will make a squealing sound.

3. Press "DOWN" operator control to lower lift. Release control when lift reaches desired position.

6. MAINTENANCE

6.1 Maintenance Devices

i WARNING

NEVER go under a raised lift platform until load is removed and lift is securely blocked in raised position with maintenance devices.

Lock-out/tag-out power source.



This procedure describes the only factory-approved method of working under a lift. Follow these instructions **EVERY** time you plan to reach or crawl beneath the lift to perform service or maintenance – no matter how momentary that might be.

If the factory-provided maintenance devices are damaged or missing, stop immediately and consult the factory for assistance. The manufacturer is not liable for your failure to use the approved maintenance devices and procedures that have been provided.

1. All loads must be removed from the lift prior to engaging the maintenance devices. These devices are designed to support an unloaded lift only. Failure to remove the load from the lift prior to blocking could cause the failure of the maintenance devices and allow the lift to fall unexpectedly. This can result in personal injury or death.
2. Raise the lift to its fully raised position. If you do not, the maintenance devices may not be able to be placed properly in their designed blocking position.
3. The lift will is provided with two flip-in maintenance devices welded to the outside of the base frame. The devices must be flipped over and resting inside the base frame (as shown at A) and thus in the roller path of the lift (**See Figure 6.1**). Maintenance devices are disengaged at (B).
4. Lower the lift platform until the leg rollers make contact with both maintenance blocks. Re-check to verify that both devices are fully and properly engaged with the leg rollers. If both left and right maintenance blocks are not fully engaged the lift could fall unexpectedly.

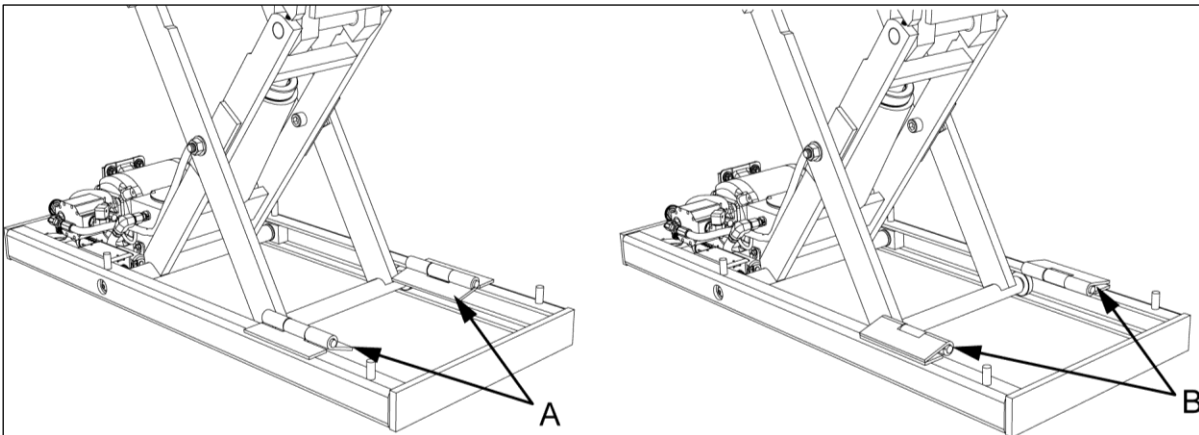


Figure 6.1

i DANGER

If for any reason you are unable to lower the lift completely onto the maintenance devices, stop immediately and consult the factory. Failure to properly use the factory approved maintenance devices could result in severe injury or death.

5. Once the maintenance devices are properly and securely engaged, continue to press the down button, valve or switch for an additional 5-10 seconds to relieve all pressure in the hydraulic system (it could take longer in a pneumatic system).

i WARNING

Failure to relieve operating system pressure could result in the sudden and unexpected release of high-pressure fluids (or air) during maintenance and/or repair of the lift, resulting in severe injury or death.

6. Follow OSHA electrical lock-out/tag-out procedures. Disconnect and tag all electrical and/or other power sources to prevent an unplanned or unexpected actuation of the lift.
7. Once inspection or work is complete, reverse the performance of the steps above to raise the lift off the maintenance devices and place the devices back into their designated storage positions.

i DANGER

HIGH VOLTAGE!! – Disconnect and/or lock out the electrical supply to the power unit per OSHA regulations prior to any installation or maintenance being performed.

6.2 Routine Maintenance

i WARNING

Prevent serious injury or death.

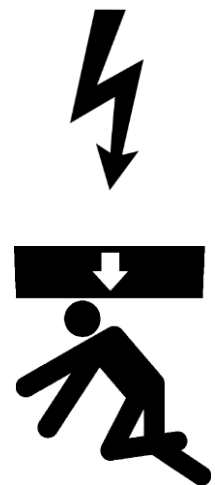
Lock-out/tag-out power source prior to any maintenance being performed.

i WARNING

Prevent serious injury or death.

Never go under lift platform until load is removed and scissors mechanism is securely blocked in raised position with maintenance devices.

See Maintenance Devices section.



i WARNING

Pressurized fluids can penetrate the skin.

Hydraulic hoses can fail from age, damage and exposure. Do not search for hydraulic leaks without body and face protection. A tiny, almost invisible leak can penetrate the skin, requiring immediate medical attention.

Use wood or cardboard to detect hydraulic leaks, never your hands.



i WARNING

Spilled hydraulic fluid is slippery and may also present a fire hazard.

Clean up spilled hydraulic fluid.



Normally, scissor lifts will require very little maintenance. However, a routine maintenance program could prevent costly replacement of parts and/or downtime.

6.2.1 Every Day or 10 Hours Of Operation

- Check reservoir fluid level.
- Check for fluid leaks.
- Check all hoses and electrical cords for cracks, abrasions, twisting, etc. Small leaks at connections can be remedied by tightening connections or replacing faulty component.
- Check that oil pressure does not exceed 2,000 psi.
- Check all pivot joints & roller bearings for noise and wear.
- Check overall condition of unit (i.e. bends, breaks, loose or missing screws, etc.).

6.2.2 Every Month or 100 Hours Of Operation

- Check quality of oil. Replace if discolored (oxidized), cloudy, or otherwise contaminated. Do not overfill reservoir. Always use clean fluid.
- Inspect lift cylinder rods for scoring and leaking, wipe away any foreign material.
- Inspect all structural and mechanical components for cracked, or broken welds and any distortion caused by collision, overloading, or other misuse.
- Inspect snap rings/bolts at rollers & pivot points for proper retention & tightness.
- Inspect cylinder base pin keeper bolts. Tighten if needed.
- Inspect all cylinder rod roll pins for proper seating & retention.

When all checks have been completed, start unit and operate through all functions. Inspect all components for signs of noise, vibration, erratic movement, and any other abnormal behavior.

6.2.3 Every Year or 1000 Hours Of Operation

- Change oil and clean reservoir. Always use clean fluid. Never return fluid from drip pans, pit, etc. back to reservoir. Dispose of and handle used fluid as a hazardous material.
- If noise or vibration has been noticed, remove lift cylinder pins, pivot pins, and roller bearings. Inspect for wear and replace as necessary.
- Inspect all hydraulic hoses, replace any that show signs of wear or leaking.
- Replace all filters.
- Check for permanent mechanical deformation.

6.2.4 Oil Requirements

Follow recommendations below that apply to your application.

Environment (Ambient Temperature)	Recommended Oil
Indoor locations with variable temperatures: 30 - 100 degrees F.	5W 30 or 5W 40 Multiviscosity Motor Oil
Indoor locations with constant temperatures: 60 - 80 degrees F.	Permissible to use SAE 20 Motor Oil
Outdoor locations: 30 - 120 degrees F.	5W 30 or 5W 40 Multiviscosity Motor Oil
Outdoor locations: 10 degrees F below 0 to 100 degrees F.	5W 20 or 5W 30 Multiviscosity Motor Oil
Cold Storage Warehouse: 10 - 40 degrees F.	Contact local <i>Autoquip</i> Service Rep.

Note: All oils are detergent type.

6.2.5 Oil Capacity

Oil capacity varies between models.

NOTICE

Use approved fluids only. Use of unauthorized fluids may cause damage to seals and hosing.

Do Not Use:

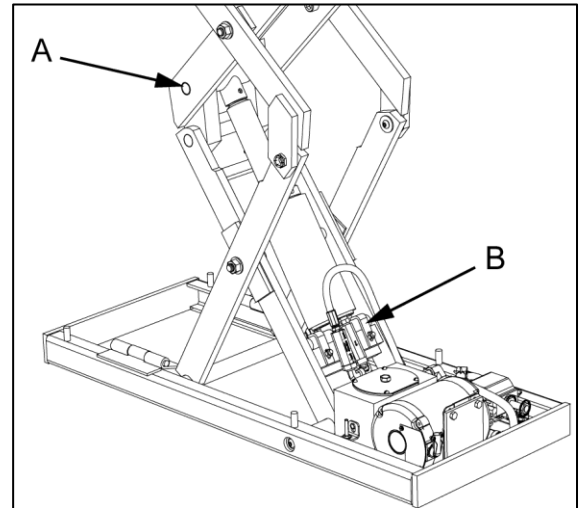
- Automatic Transmission Fluid (ATF)
- Hydraulic Jack Oil
- Hydraulic Fluids
- Brake Fluids
-
-

6.3 General Maintenance

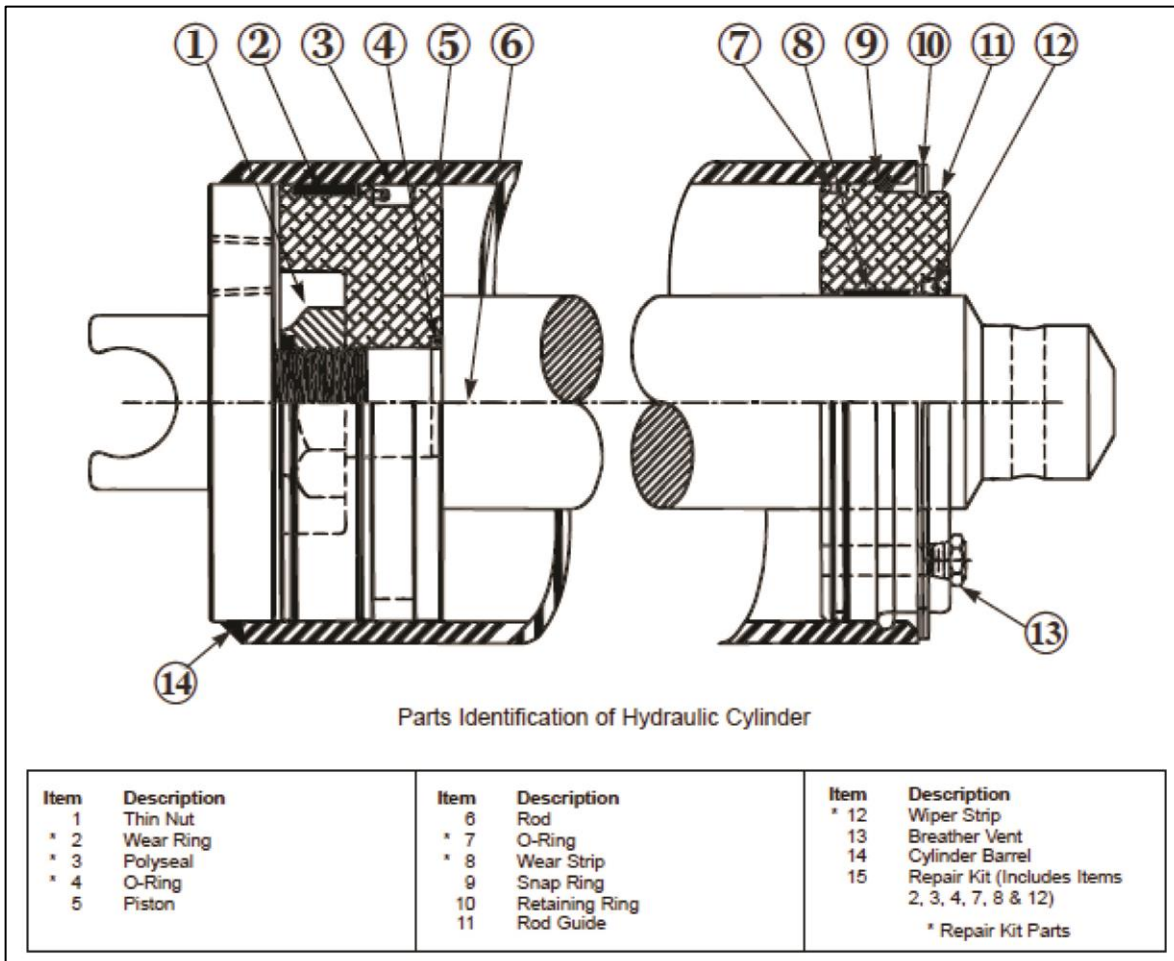
6.3.1 Hydraulic Cylinder Repair

6.3.1.1. Cylinder Removal

1. Raise lift to its full height and engage maintenance devices. See "Maintenance Devices".
2. Disconnect electrical power to lift. Follow lock out-tag out procedure.
3. Disconnect hose on cylinder base end and insert into oil-fill hole of reservoir.
4. Remove pin (A) on cylinder rod.
5. Remove bolts and retaining clips from cylinder base (B).
6. Remove cylinder from lift assembly.
7. Push piston rod into cylinder to eject as much oil as possible into a container.



6.3.1.2. Disassemble Cylinder - Style 'A'



i DANGER

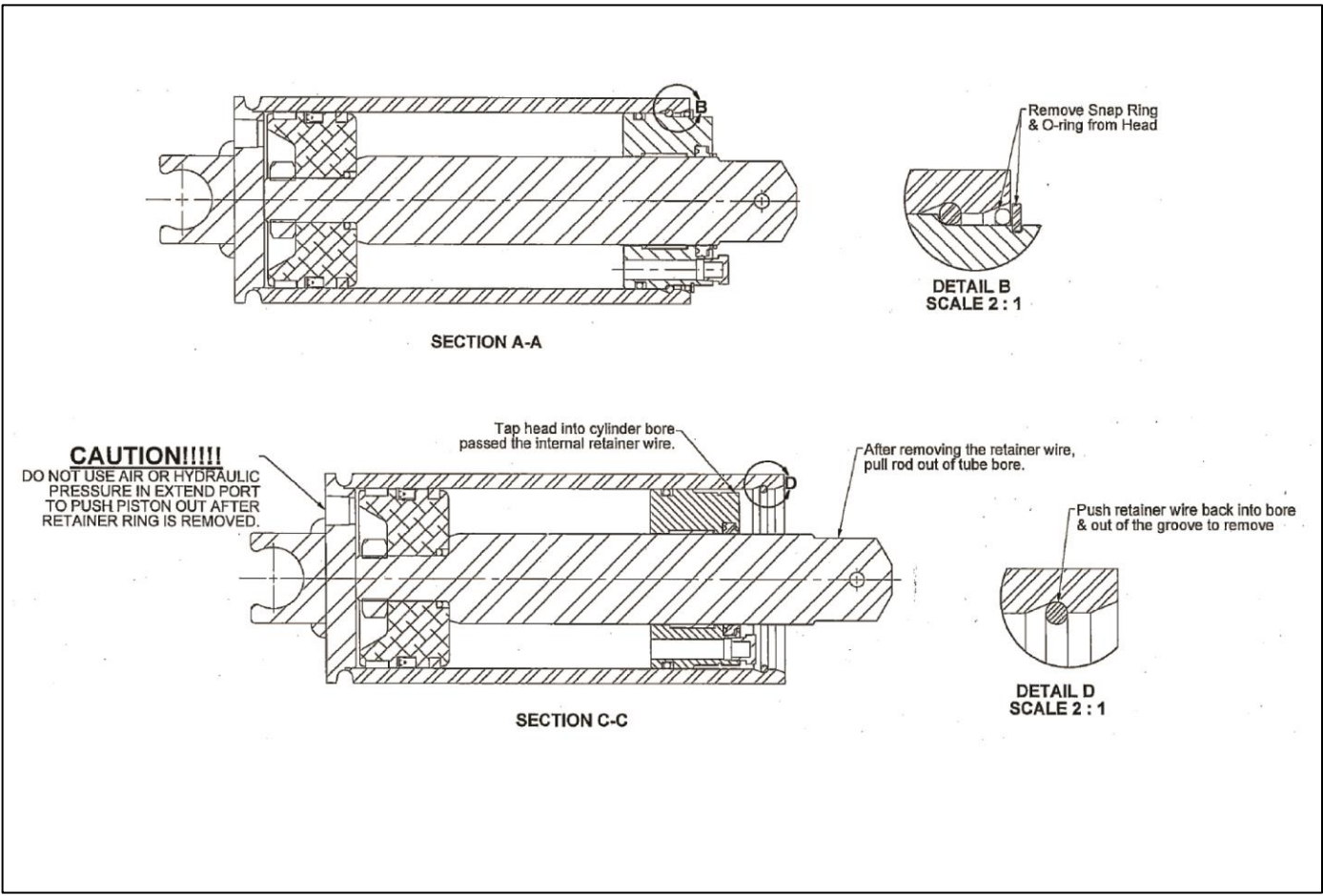
Do NOT use compressed air to push piston out of cylinder.

1. Remove the Spirolox ring from rod guide.
2. Drive rod guide back into ram using a soft hammer.
3. After rod guide has passed wire lock ring, remove ring from groove in cylinder.
4. After rings are removed, pull the whole rod assembly out of the cylinder.
5. Remove lock nut from base of rod.
6. Remove piston.
7. Inspect cylinder components for wear or damage. Replace parts as necessary. Specify the cylinder model number stamped on the base of the cylinder when ordering parts.

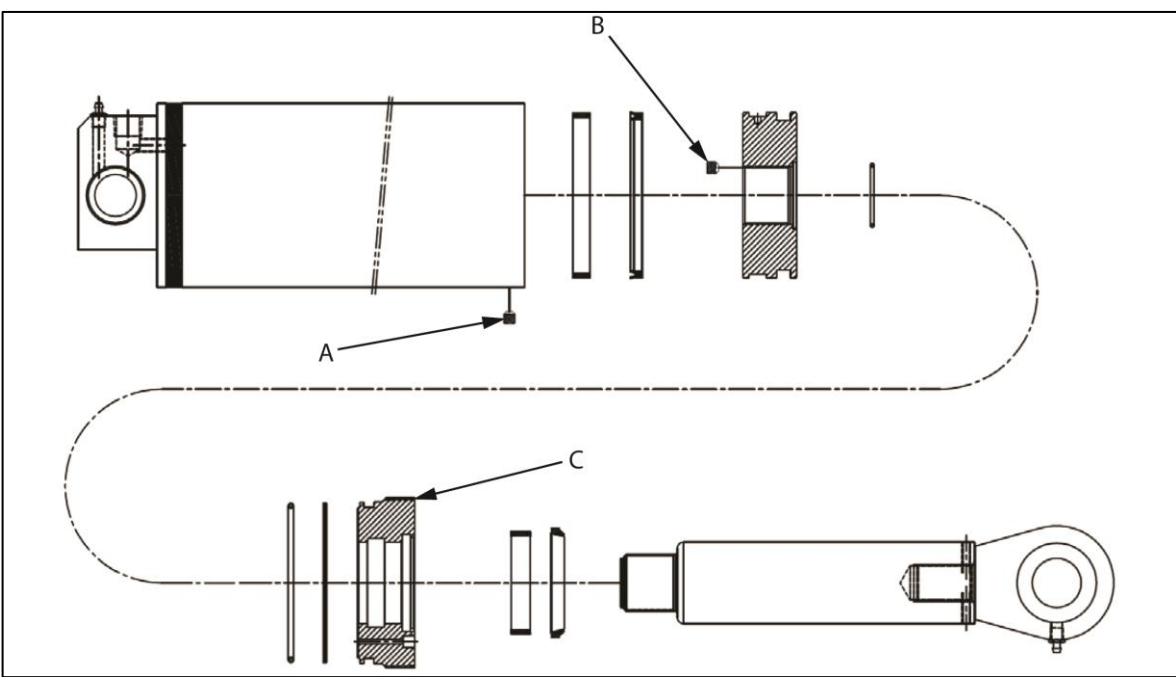
6.3.1.3. Assemble Cylinder – Style ‘A’

1. Position piston on threaded rod. Verify static O-ring is in place between piston and rod.
2. Install self locking nut on rod. Tighten nut.
3. Install all seals and wear strips on piston and rod guide.
4. Lubricate cylinder, piston, and rod guide with hydraulic fluid.
5. Position the piston assembly down, rod up and slide rod guide over the rod down to piston.
6. Drop piston and guide down into cylinder.
7. Insert lock wire in cylinder groove.
8. Force rod guide up against lock wire with compressed air inserted into guide breather vent.
9. Install Spirolox ring in top groove, after guide is in place.

6.3.1.4. Disassemble & Assemble Cylinder - Style 'B'



6.3.1.5. Disassemble & Assemble Cylinder - Style 'C'



i DANGER

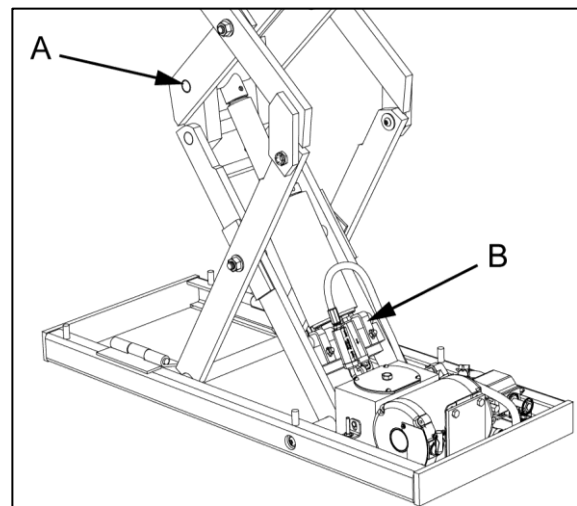
Do NOT use compressed air to push piston out of cylinder.

1. Remove set screw (A).
2. Unscrew gland (C) using a spanner wrench.
3. Slide rod out of barrel.
4. Remove set screw (B) from end of piston and unscrew piston from rod.
5. Remove seals. Record the position of each seal.
6. Install new seals in reverse order of removal.

6.3.1.6. Install Cylinder

1. Install end of cylinder rod into crosshead mount. Align holes and insert pin (A).
2. Position cylinder base and install retainer clips (B) and bolts.

Loctite PST #567 pipe thread sealant or equivalent is recommended. **Do not use Teflon tape.** Tape fragments may cause hydraulic system to malfunction.



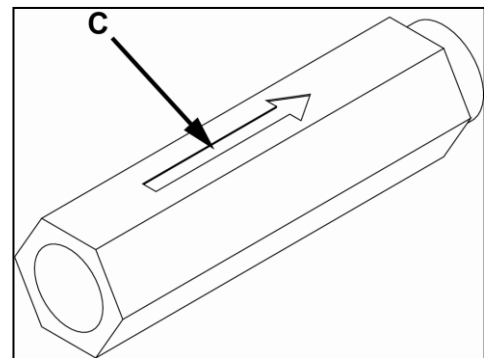
i WARNING

Prevent serious injury or death.

HVF is attached to elbow fitting in rod port of cylinder. Do not use a swivel fitting between HVF and cylinder. If HVF is installed improperly, it will not lock up in event of a hydraulic line failure.

Arrow (C) on hydraulic velocity fuse indicates direction of oil flow restriction. Hydraulic velocity fuse must be installed with arrow pointing away from cylinder.

3. Connect cylinder hose(s).
4. Check that lift anchors are tight (when used). Check all pins and other mechanical and hydraulic connections.
5. Restore oil level. See "Oil Requirements" and "Oil Capacity" sections.
6. Turn on electrical power and press "UP" operator control. It may take a few seconds to fill empty cylinders. Raise lift approximately one inch and disengage maintenance devices.



7. Lower lift completely and hold “DOWN” operator control for 60 seconds to allow air in cylinders to bleed back into reservoir.
8. Raise lift to 25 – 50% of full travel, then lower and hold “DOWN” operator control for an additional 60 seconds. Repeat procedure 8 – 10 times.
9. Periodically check oil level against fill mark.
10. Clean oil fill breather cap.

6.3.2 Bleeding Air From System

1. Bleed air from system by raising lift to 50% of full travel, then lower completely.
2. Hold “DOWN” operator control for 60 seconds.
3. Repeat procedure 5-6 times. If this does not bleed all air from system, contact Autoquip.
4. Clean up any spilled oil. Dispose of spilled oil in an environmentally safe manner.

6.3.3 Hydraulic Velocity Fuse (HVF) Replacement

i WARNING

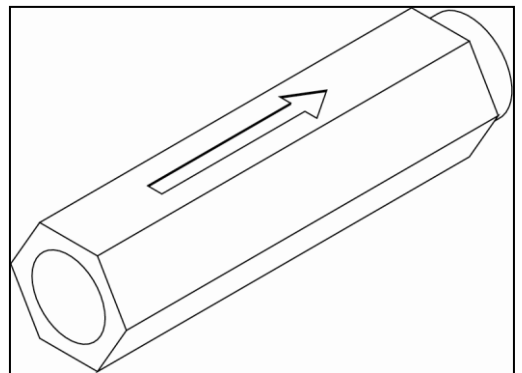
Prevent serious injury or death.

Never go under lift platform until load is removed and scissors mechanism is securely blocked in raised position with maintenance devices and hydraulic pressure is relieved.

The HVF is attached to elbow fitting in rod port of cylinder. Do not use a swivel fitting between HVF and cylinder. If HVF is installed improperly, it will not lock up in the event of a hydraulic line failure.

Velocity fuse is not repairable. Replace velocity fuse if defective.

1. Arrow on hydraulic velocity fuse indicates direction of oil flow restriction. Hydraulic velocity fuse must be installed with arrow pointing away from cylinder.



NOTICE

Do not use Teflon tape on hydraulic threaded connections. Tape fragments may damage hydraulic system.

2. Apply Loctite PST #567 pipe thread sealant or equivalent to threads and install fuse to cylinder with arrow pointing away from cylinder. Tighten fuse.
3. Fill reservoir to full mark if necessary with proper oil.

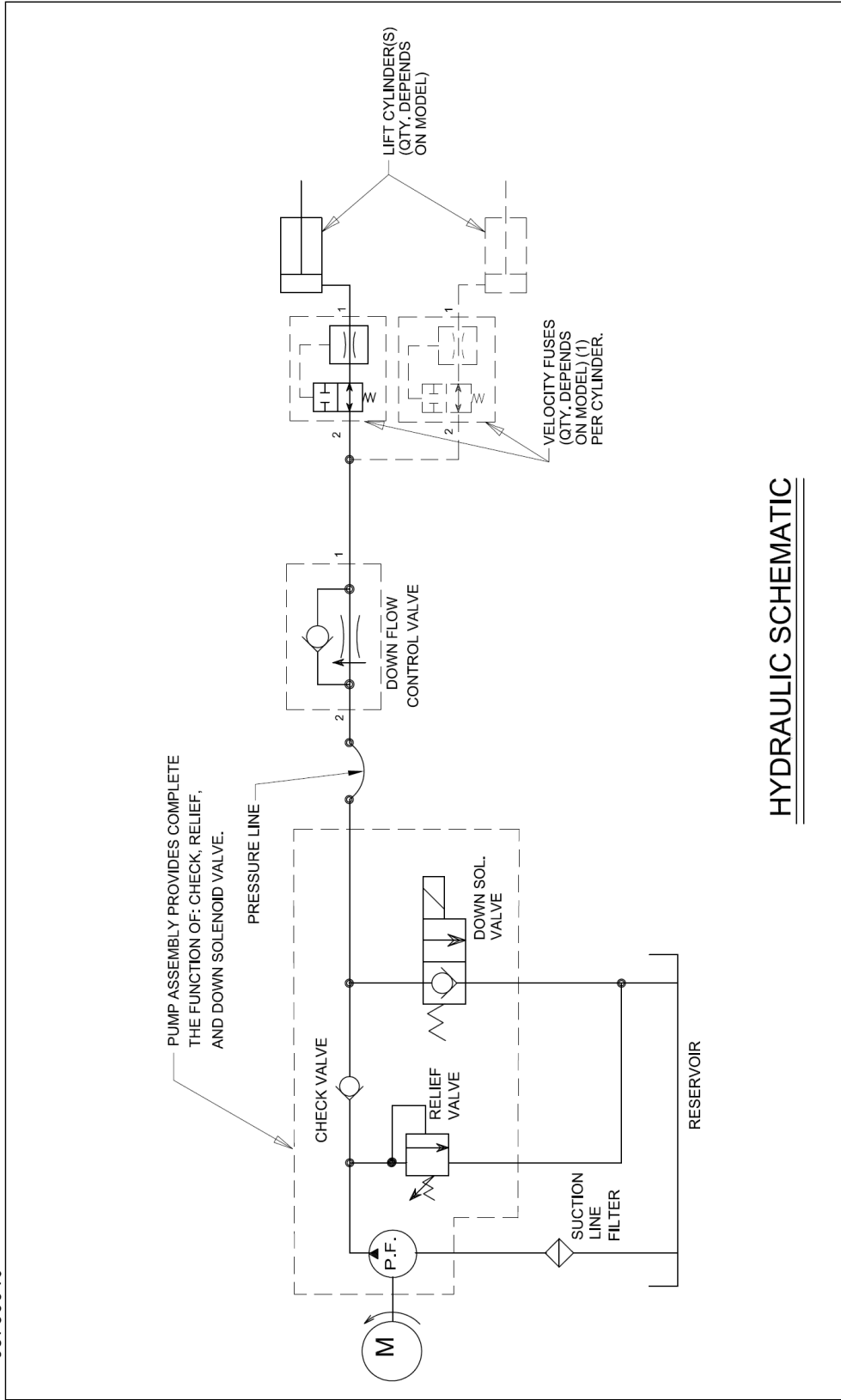
4. Check all fitting connections for hydraulic leaks and tighten as necessary.
5. Bleed air from system. See “Bleeding Air From System” in this section.

6.3.4 Hose Orientation

To prevent damage to cylinder hoses, it is necessary to establish a correct hose shape and pattern of movement as follows:

1. Raise lift to its full height and block securely. See “Maintenance Devices”.
2. Install one end of new hose to cylinder fitting.
3. Since hose is fixed at both ends, it is possible to put a twist in hose that will allow it to describe the same pattern each time lift is operated. This twist will allow hose to travel about half way between cylinder on right side and inner leg on right side.
4. Lower lift carefully and verify hose is free and clear of cylinder and inner leg assembly. If not, twist hose in direction necessary to clear any obstruction and tighten swivel fitting.

65750040

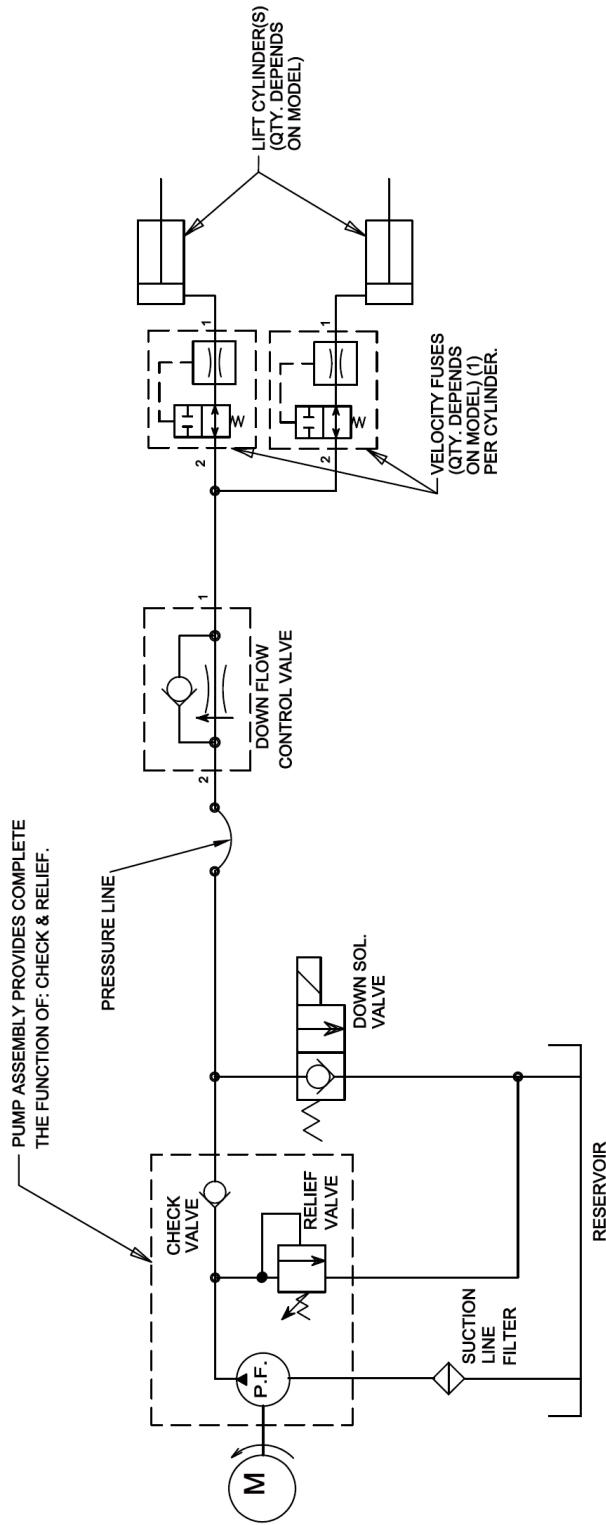


HYDRAULIC SCHEMATIC

2	REDRAWN IN AUTOCAD	JZ	10/11/01
1	ADDED PLT-C TO TITLE	WJB	10/16/96
REV	DESCRIPTION	BY	DATE
JOB NAME:		ORDER NO.:	

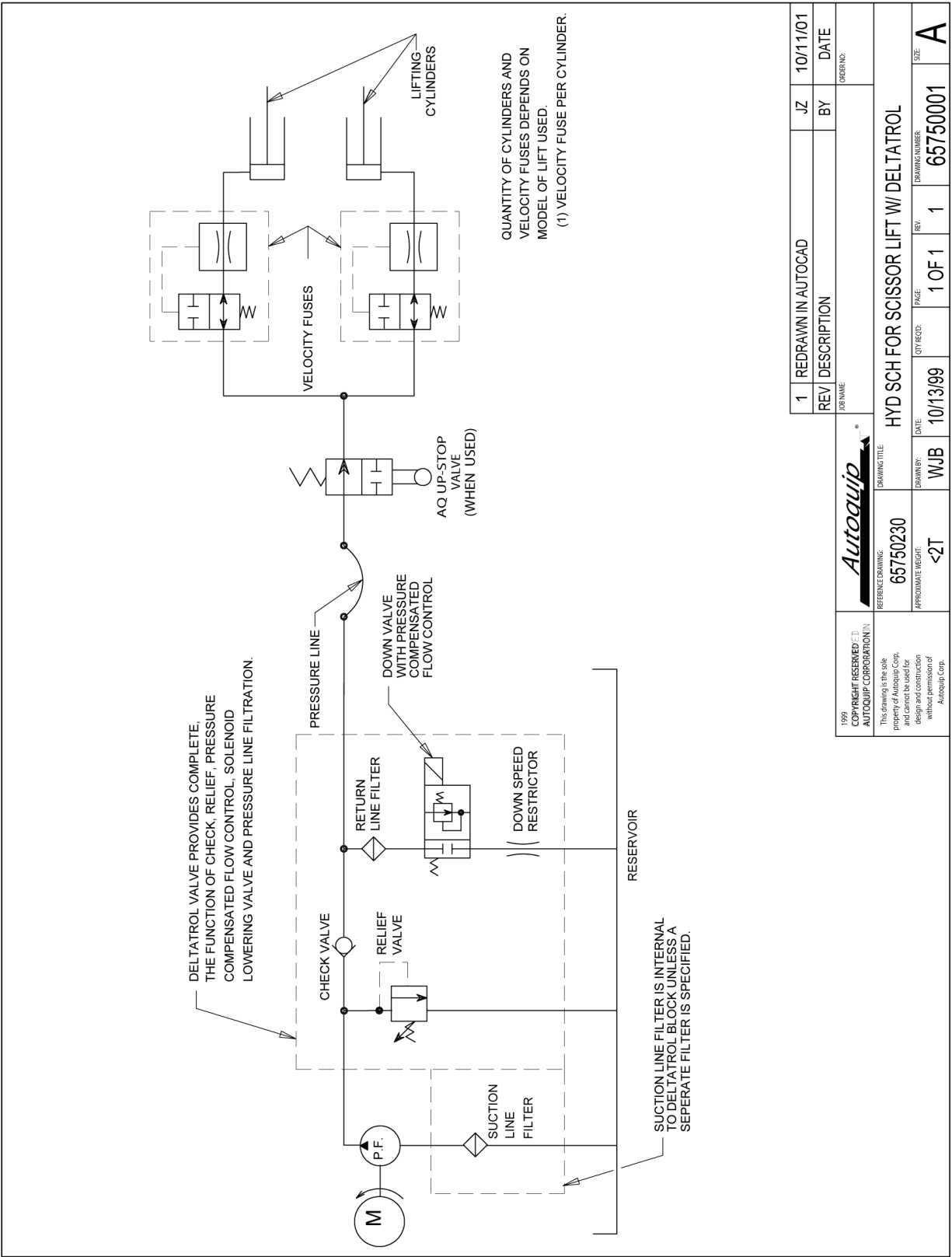
Autogrip <small>2011 COPYRIGHT RESERVED AUTOGRIP CORPORATION</small>		<small>DRAWING TITLE:</small> HYD SCH FOR S35 & PLT-C	
<small>This drawing is the sole property of Autogrip Corp. and cannot be used for design and construction without permission of Autogrip Corp.</small>		<small>REFERENCE DRAWING:</small> 65807323	
<small>DRAWN BY:</small> DWL	<small>DATE:</small> 9/11/95	<small>QTY REQ'D:</small> 1 OF 1	<small>REV:</small> 2
<small>APPROXIMATE WEIGHT:</small> N/A	<small>DRAWING NUMBER:</small> 65750040	<small>SIZE:</small> A	

65750041



HYDRAULIC SCHEMATIC

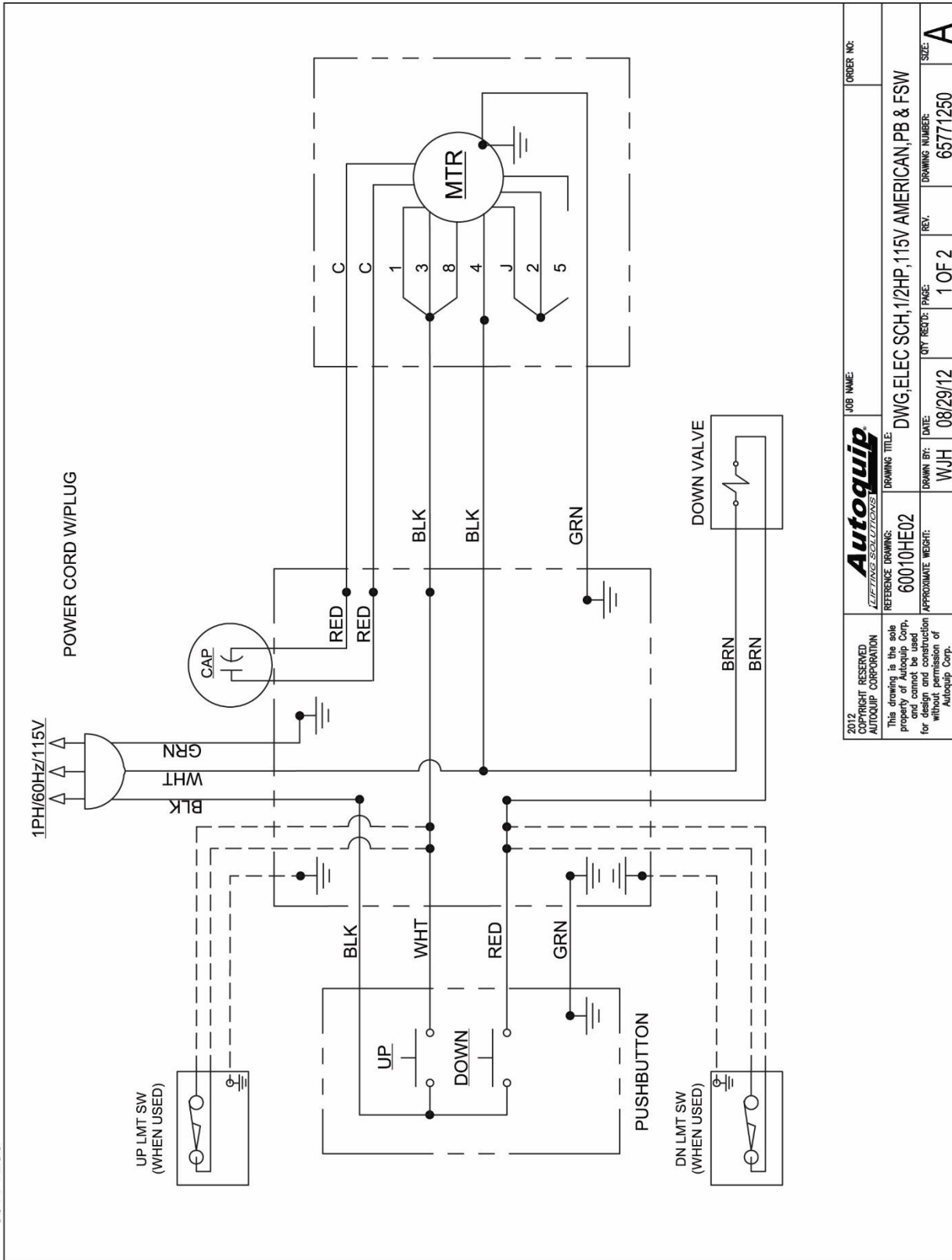
2011 COPYRIGHT RESERVED AUTOQUIP CORPORATION	REV/ DESCRIPTION		BY	DATE
	JOB NAME			ORDER NO.
This drawing is the sole property of Autoquip Corp. and cannot be used for design and construction without permission of Autoquip Corp.	DRAWING TITLE			
	REFERENCE DRAWING:	DRAWING NUMBER:		
65750040	HYD SCH FOR AM CONTRACTOR			
APPROXIMATE WEIGHT:	QTY REQ'D:	PAGE	REV.	SIZE
N/A	8/3/11	1 OF 1		A
	JCJ			



1	REDRAWN IN AUTOCAD	JZ	10/11/01
REV	DESCRIPTION	BY	DATE
<small>1999 COPYRIGHT RESERVED BY AUTOQUIP CORPORATION</small> <small>This drawing is the sole property of Autoquip Corp. and cannot be used for design and construction without permission of Autoquip Corp.</small>			
REFERENCE DRAWING:	65750230	DRAWN BY:	WJB
APPROXIMATE WEIGHT:	<2T	DATE:	10/13/99
DRAWING TITLE:	HYD SCH FOR SCISSOR LIFT W/ DELTA TROL		
QTY/RECD:	1 OF 1	REV:	1
DRAWING NUMBER:	65750001	ORDER NO.:	A

Generic Hydraulic Schematic (5HP Heavy Duty Power Unit)

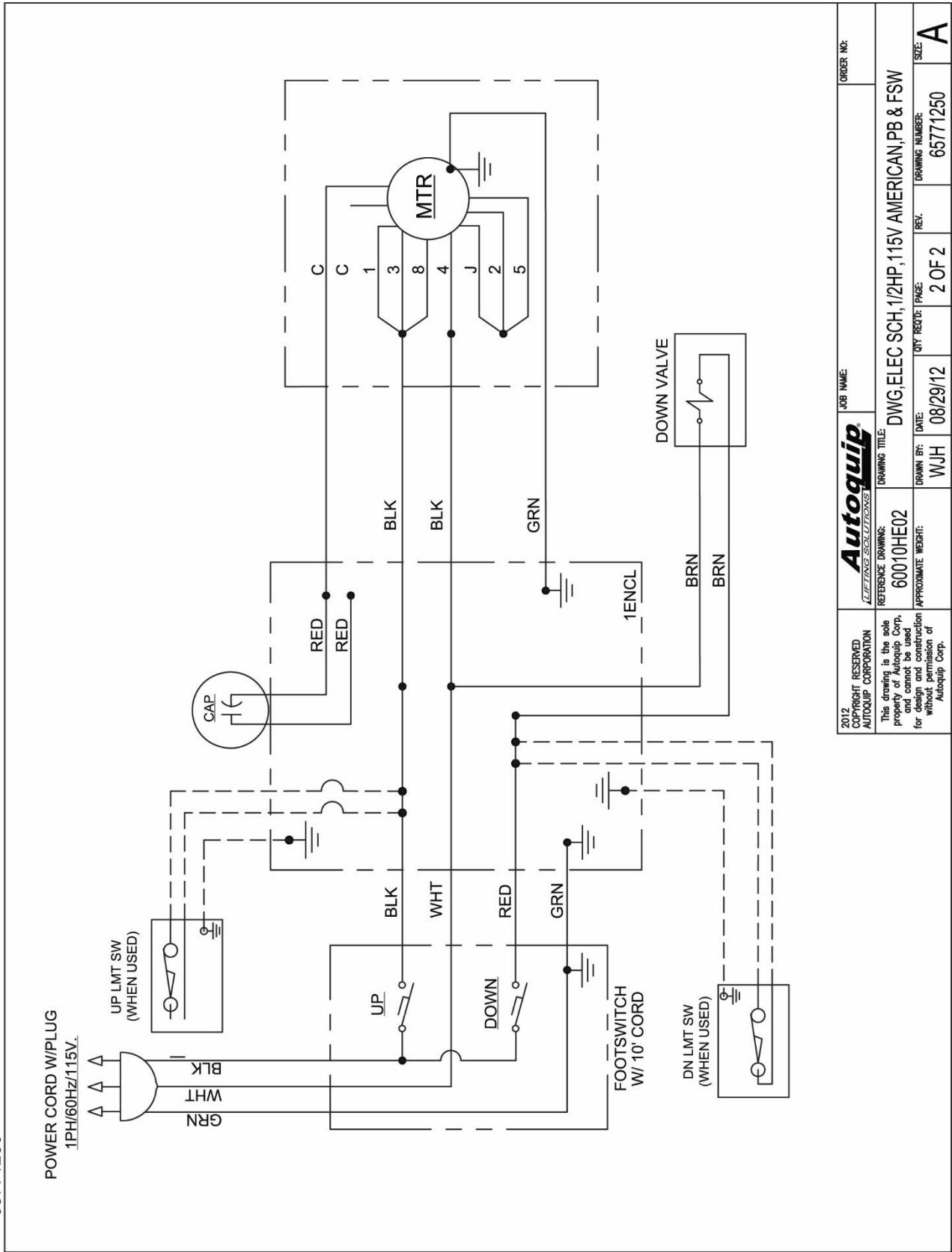
65771250



General Electrical Schematic (1/2HP 115V)

2012 COPYRIGHT RESERVED AUTOQUIP CORPORATION This drawing is the sole property of Autoquip Corp. and cannot be used for design and construction without permission of Autoquip Corp.	Autoquip <small>LIZING SOLUTIONS</small>		JOB NAME:		ORDER NO:
	REFERENCE DRAWING: 60010HE02	DRAWING TITLE: DWG.ELEC SCH, 1/2HP, 115V AMERICAN, PB & FSW		DRAWING NUMBER: 65771250	
APPROXIMATE WEIGHT:	DRAWN BY: WJH	DATE: 08/29/12	REV. 1 OF 2	REV.	DRAWING NUMBER: 65771250

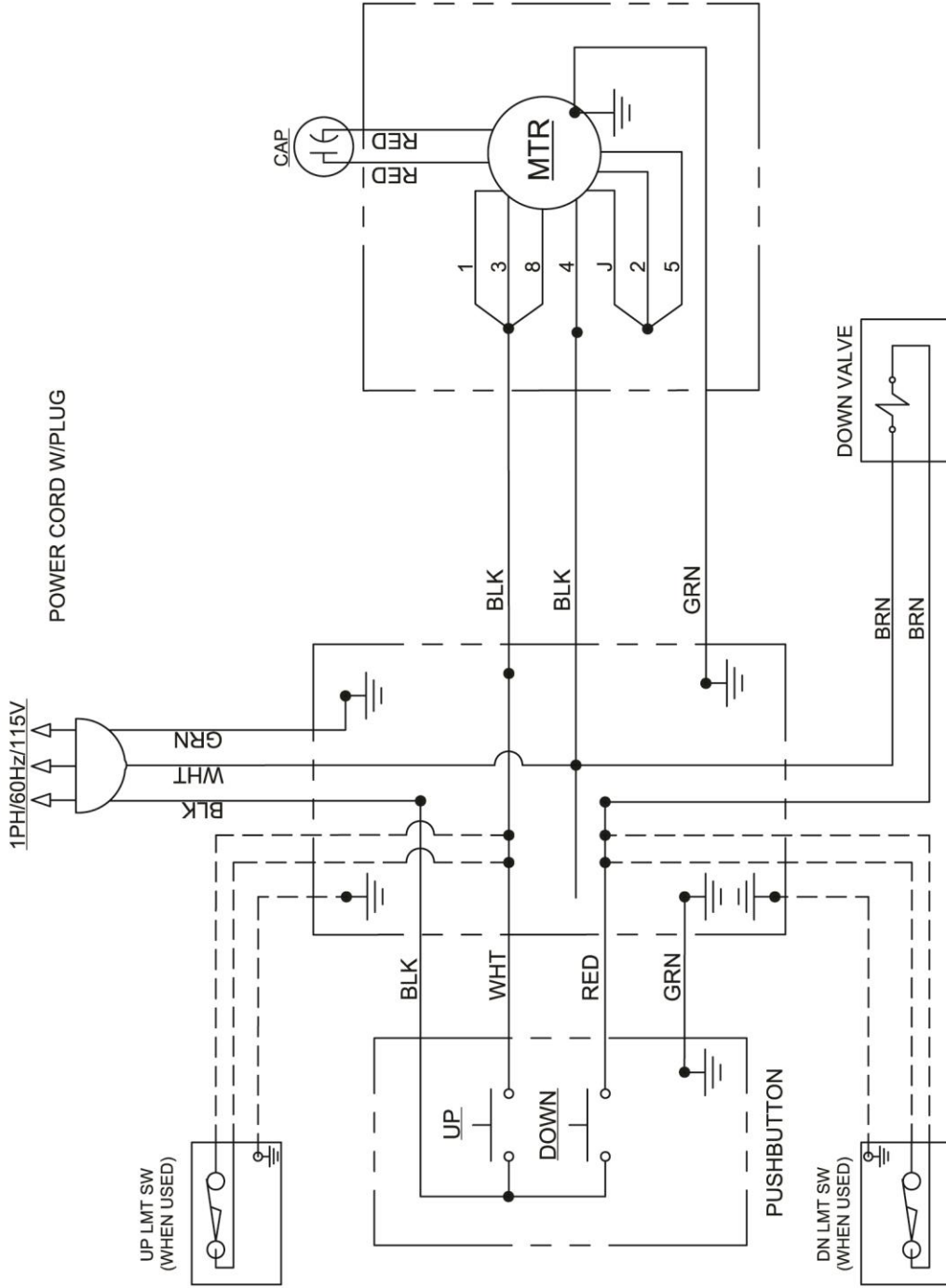
65771250



2012 COPYRIGHT RESERVED AUTOQUIP CORPORATION <i>LEADING SOLUTIONS</i>	JOB NAME:		ORDER NO.:
	DRAWING TITLE: DWG ELEC SCH, 1/2HP, 115V AMERICAN, PB & FSW		
REFERENCE DRAWING: 60010HE02	DATE:	QTY REQD: PAGE:	REV.
APPROXIMATE WEIGHT:	WJH	08/29/12	2 OF 2
DRAWN BY:			DRAWING NUMBER: 65771250
<small>This drawing is the sole property of Autoquip Corp. and cannot be used for design and construction without permission of Autoquip Corp.</small>			SIZE: A

General Electrical Schematic (1/2HP 115V)

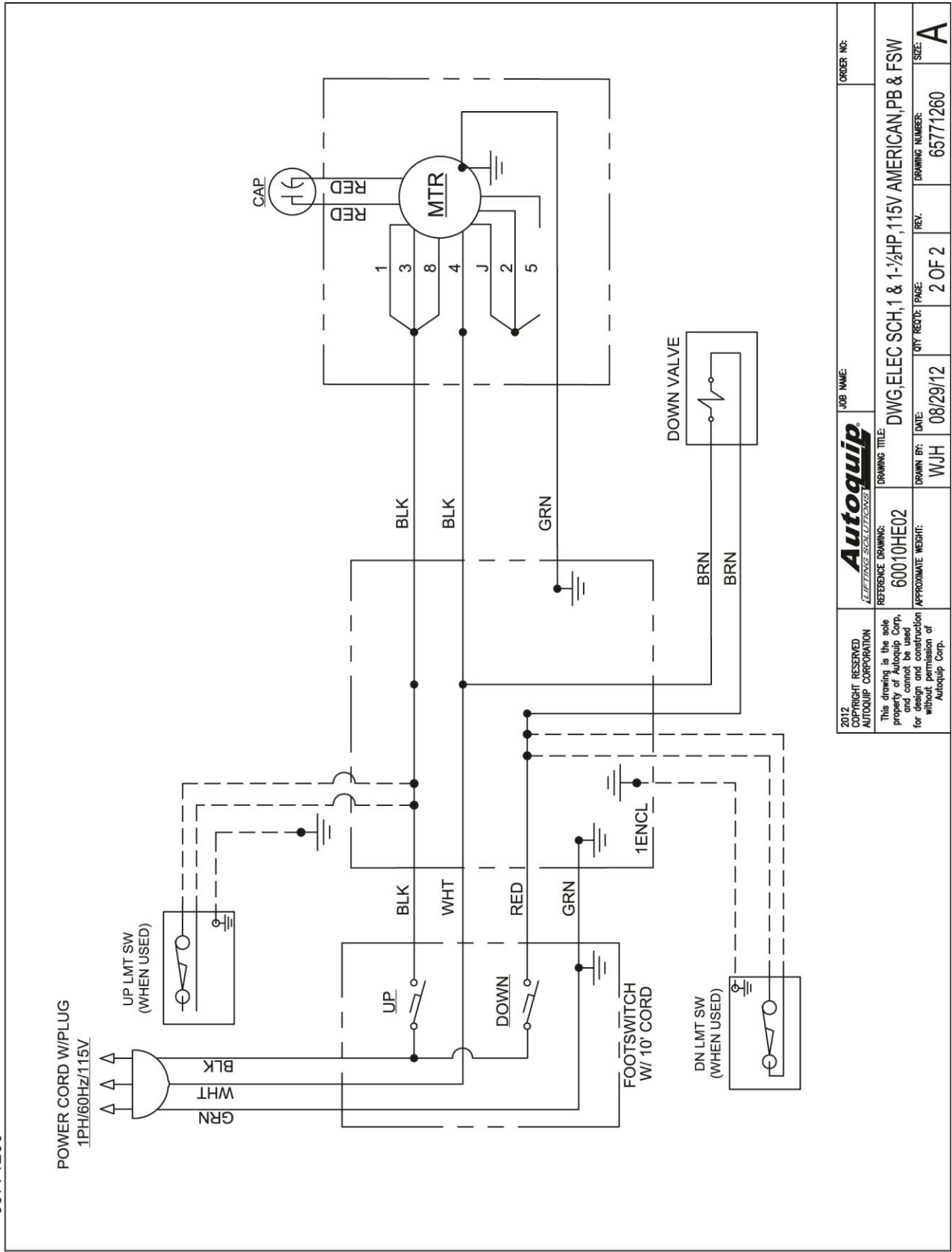
65771260



General Electrical Schematic (1 & 1-1/2HP 115V)

2012 COPYRIGHT RESERVED AUTOQUIP CORPORATION	JOB NAME:		ORDER NO.:
			
This drawing is the sole property of Autoquip Corp. and cannot be used for design and construction without permission of Autoquip Corp.	REFERENCE DRAWING:	DRAWING TITLE:	
	60010HE02	DWG,ELEC SCH,1 & 1-1/2HP,115V AMERICAN,PB & FSW	
APPROXIMATE WEIGHT:	DRAWN BY:	DATE:	QTY REQ'D: PAGES:
	WJH	08/29/12	1 OF 2
		REV.:	DRAWING NUMBER:
			65771260
			SIZE:
			A

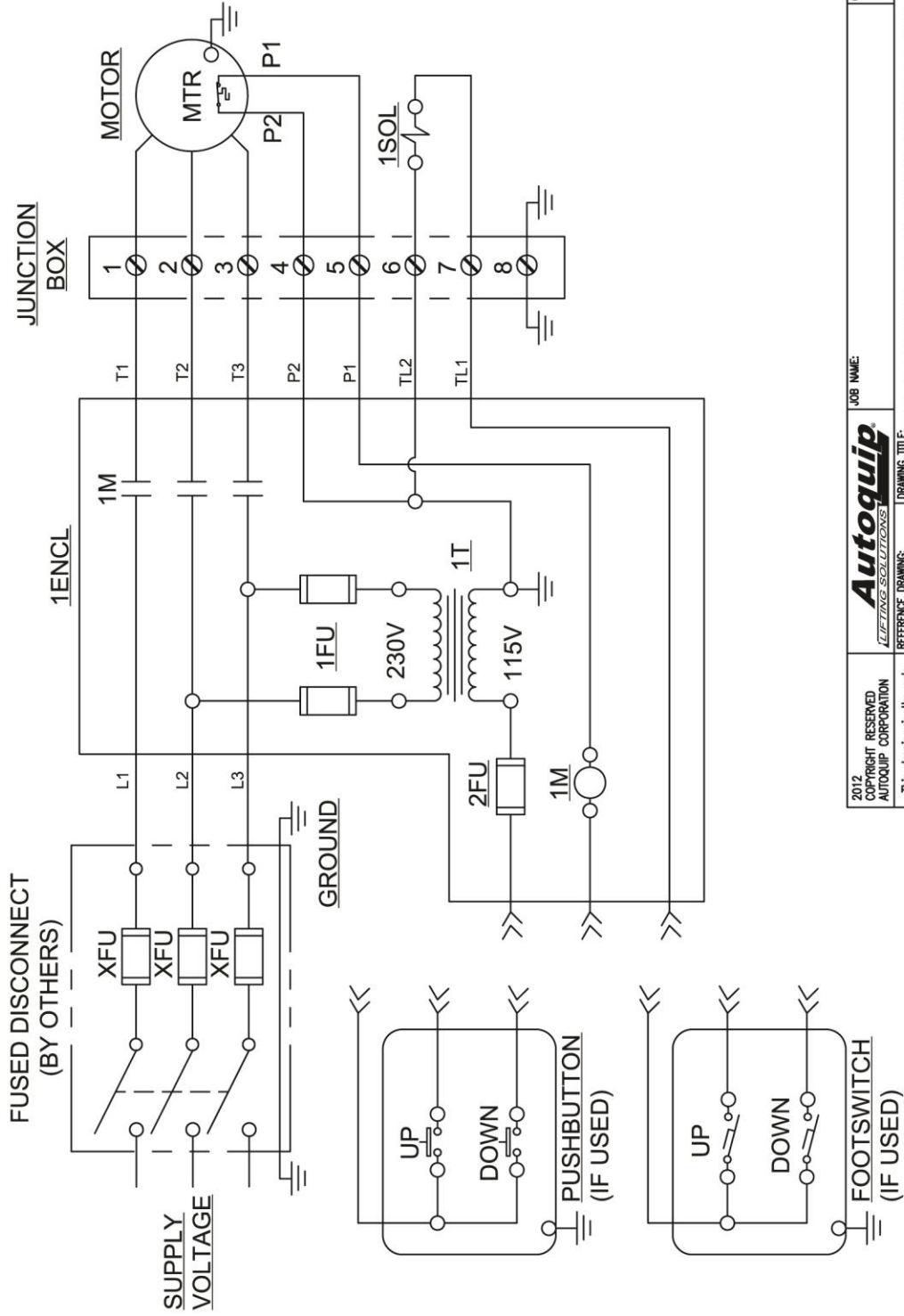
65771260



2012 COPYRIGHT RESERVED AUTOQUIP CORPORATION This drawing is the sole property of Autoquip Corp. and shall not be reproduced or distributed for any other use without the written permission of Autoquip Corp.	Autoquip <small>LIFTING SOLUTIONS</small>	JOB NAME: _____ ORDER NO: _____
	REFERENCE DRAWING: 60010HE02	DRAWING TITLE: DWG.ELEC SCH,1 & 1-1/2HP,115V AMERICAN,PB & FSW
APPROXIMATE WEIGHT: _____	DRAWN BY: WJH	DATE: 08/29/12
_____	QTY REQ'D: _____	PAGE: 2 OF 2
_____	REV. _____	DRAWING NUMBER: 65771260
_____	_____	SIZE: A

General Electrical Schematic (1 & 1-1/2HP 115V)

460/230/208VAC, 3PH
QUICK DISCONNECT PB/FS

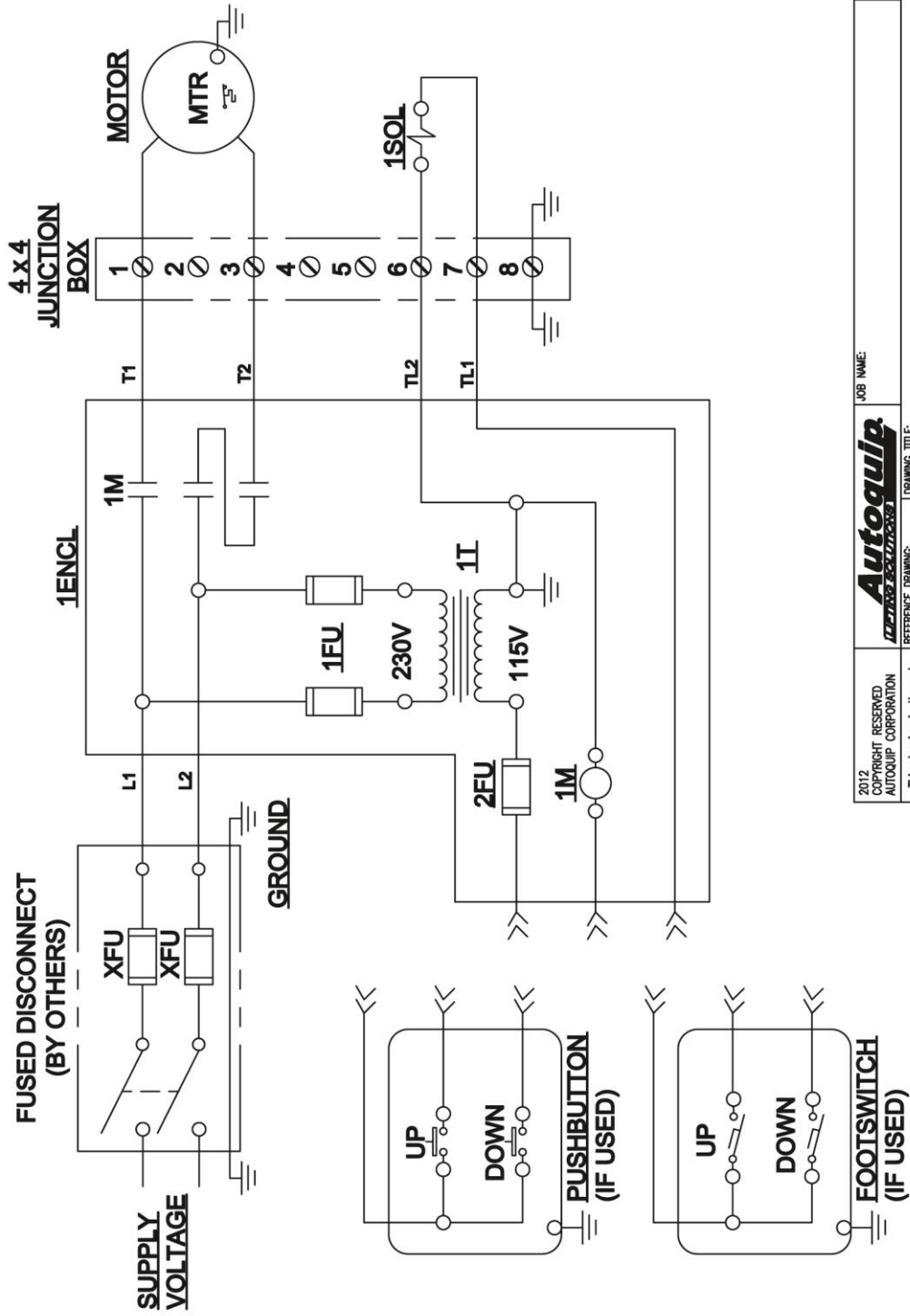


2012 COPYRIGHT RESERVED AUTOQUIP CORPORATION This drawing is the sole property of Autoquip Corp. and cannot be used for design and construction without permission of Autoquip Corp.	REFERENCE DRAWING: 460/230/208VAC	JOB NAME: Autoquip	ORDER NO.:
	DRAWING TITLE: DWG, ELEC SCH, CNTRL, 115VAC, AMERICAN, PB & FSW	DATE: 05/14/10	DRAWING NUMBER: 65771270
APPROXIMATE WEIGHT: CDM	DRAWN BY: CDM	QTY REQ'D: PAGE: 1 OF 1	REV. REV. DRAWING NUMBER: 65771270

Generic Electrical Schematic (Controls)

65771270

230/208VAC, 1PH, 1HP QUICK DISCONNECT PB/FS



2012 COPYRIGHT RESERVED AUTOQUIP CORPORATION This drawing is the sole property of Autoquip Corp. and cannot be used for design and construction without permission of Autoquip Corp.	Autoquip <small>230/208VAC, 1PH, 1HP</small>		JOB NAME:	ORDER NO:
	REFERENCE DRAWING:	DRAWING TITLE:	DWG, ELEC SCH, CNTRL, 115CVAC, AMERICAN, PB & FSW	REV.
APPROXIMATE WEIGHT:	DRAWN BY:	CDM	DATE:	REV.
QTY REQ'D:	PAGE:	2 OF 2	REV.	DRAWING NUMBER:
65771270	2 OF 2	05/14/10	2 OF 2	65771270
A	A	A	A	A

Generic Electrical Schematic (Controls)

7. TROUBLESHOOTING

i WARNING

Prevent serious injury or death.

Disconnect and/or lock out electrical supply to power unit prior to any maintenance being performed.



i WARNING

Prevent serious injury or death.

Never go under lift platform until load is removed and scissors mechanism is securely blocked in open position.
Follow OSHA lock-out/tag-out procedure.



See "Maintenance Devices" section.

i WARNING

Pressurized fluids can penetrate the skin.

Hydraulic hoses can fail from age, damage and exposure.

Do not search for hydraulic leaks without body and face protection. A tiny, almost invisible leak can penetrate the skin, thereby requiring immediate medical attention.



Use wood or cardboard to detect hydraulic leaks, never your hands.

i WARNING

Spilled hydraulic fluid is slippery and may also present a fire hazard.

Clean up spilled hydraulic fluid.



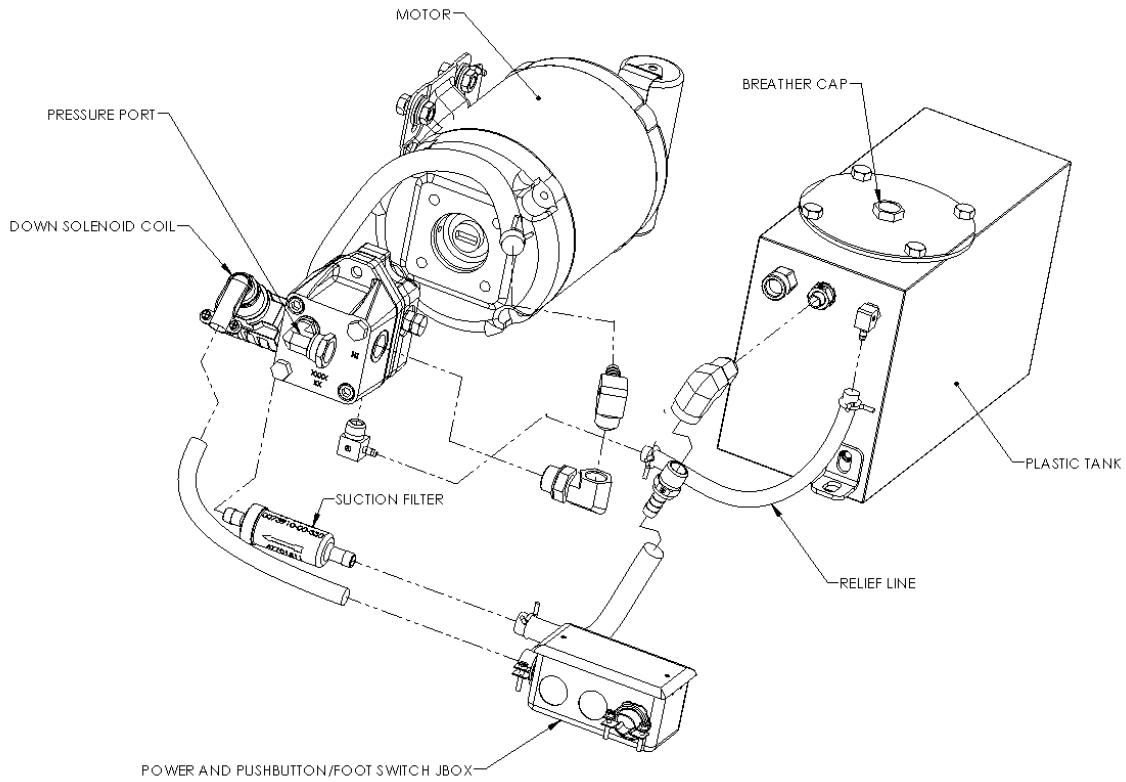
PROBLEM	POSSIBLE CAUSE AND SOLUTION
Lift Raises, Then Lowers Slowly.	<p>Down solenoid may not be seating. Remove solenoid coil and check. If lift does not hold with solenoid coil removed, remove and clean down valve cartridge or replaced as necessary.</p> <p>Oil line, hose, or fitting may be leaking. Check and repair if necessary.</p> <p>Check valve in pump assembly may not be seating. This is indicated by pump shaft and motor turning backward on their own with no power applied. Generally, this condition can be heard. Replace pump assembly.</p>
Lift Lowers Slowly.	<p>Down solenoid is not operating properly due to debris or damage.</p> <p>Check for pinched tubing or hose. Where pipe is used, check for obstruction in line.</p> <p>Thick oil due to low ambient temperatures. Add or replace with lower weight oil that stays thin in cold conditions (5W-15, etc.)</p> <p>If foam is visible in tank oil, check for loose connection in suction line between pump and tank. Tighten connections.</p>
Lift Does Not Raise.	<p>Motor rotation for a 3-phase motor may be reversed. Reverse two motor electrical leads.</p> <p>Check for line or hose leak.</p> <p>Check for low oil in reservoir. Add specified oil as necessary.</p> <p>Load may exceed rating. See the Specifications section. Remove excess load.</p> <p>Suction screen may be clogged, starving pump. Remove and clean screen. Drain and replace oil.</p> <p>Suction line may be leaking air due to a loose fitting. Tighten as needed.</p>

PROBLEM	POSSIBLE CAUSE AND SOLUTION
Lift Does Not Raise, Continued.	<p>Breather holes in reservoir fill plug may be clogged. Remove and clean.</p> <p>Voltage may be too low to run pump with existing load. Check by measuring voltage at motor terminals, or as near as possible, <u>while pump is running under load</u>. Inadequate or incorrect wiring can starve motor when source voltage is ample. Correct as necessary.</p> <p>Down valve may be energized by faulty wiring or stuck open. Remove solenoid and check.</p> <p>Motor may be single phasing. Check wiring, fuses, etc.</p> <p>Pump may be seized if motor is humming or blowing fuses on overload protection devices. Remove pump. Pump can be rotated by hand unless seized. Check for cracks in housing.</p> <p>Down solenoid valve stem may be bent, causing valve to stick open. Replace down solenoid valve.</p>

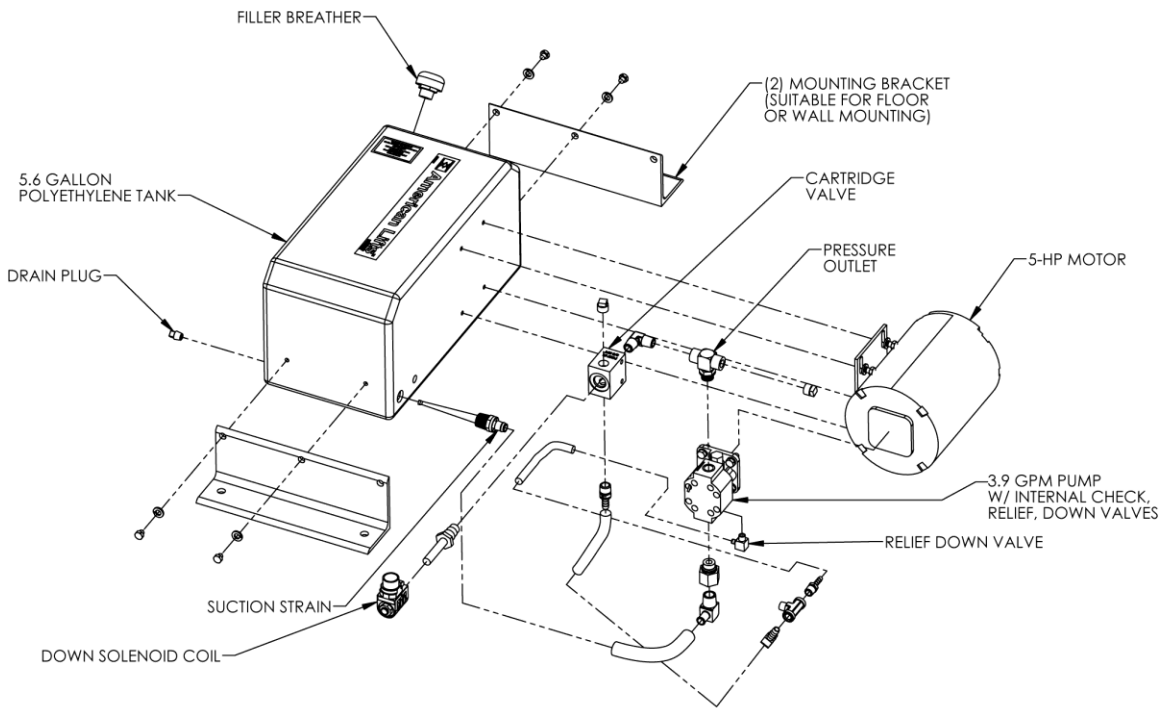
PROBLEM	POSSIBLE CAUSE AND SOLUTION
Lift Won't Lower.	<p>Solenoid coil may be incorrectly wired, burned out, not rated for the voltage, or line voltage may be excessively low. Check voltage near coil.</p> <p>Velocity fuse may be locked. Do not attempt to remove the velocity fuse. The following steps should be followed:</p> <ol style="list-style-type: none"> 1. Remove load from lift. Inspect all fittings, hoses, and other hydraulic components for leaks or damage. 2. If no leak or damage is noticed, attempt to pressurize lifting cylinder by pressing "UP" button on controller for a few seconds. Immediately release "UP" button and press "DOWN" button. If lift starts to lower, continue pressing "DOWN" button until lift is fully lowered. 3. If lift does not lower after trying Step 2, wait approximately 10 – 15 minutes for pressure in hydraulic system to equalize. Then, press "DOWN" button until lift is fully lowered. 4. Once lift is fully lowered, hold "DOWN" button for approximately 60 seconds to bleed air from system. This step may need to be repeated several times to fully remove air in system by raising the lift to 50% of its travel and lowering. <p>If above steps do not correct problem, contact <i>Autoquip</i> to obtain instruction for further action.</p>

PROBLEM	POSSIBLE CAUSE AND SOLUTION
Lift Seems Bouncy During Operation.	<p data-bbox="576 165 1453 296">Lower lift to collapsed position and continue to hold "DOWN" button an additional 10-30 seconds to bleed air from cylinder. Do not confuse spongy or jerky operation with small surges that may occur when operating on rough or uneven floors.</p> <p data-bbox="576 331 885 359">Check for oil starvation.</p>
Motor Labors or Heats Excessively.	<p data-bbox="576 365 1469 495">Voltage may be low. Check voltage at motor terminals while pump is <u>running under load</u>, not at line source or while pump is idling. Inadequate wiring can starve motor even when source voltage is ample.</p> <p data-bbox="576 531 1469 661">Most of <i>Autoquip's</i> standard motors are rated for intermittent duty. If a single-phase motor is being run more than 15 – 20 motor starts per hour, or a 3-phase motor more than 200 starts per hour, the problem may be motor over-heating.</p> <p data-bbox="576 697 1469 764">Running against relief pressure unnecessarily due to over loaded lift or hitting physical stops.</p> <p data-bbox="576 800 1437 867">Failure to observe wiring diagram on nameplate for proper voltage connections.</p> <p data-bbox="576 903 1412 995">Pump may be binding from oil starvation, which develops high internal heat. Check for low oil level or clogged breather holes in reservoir fill plug. Pump can be damaged by oil starvation.</p>

8. PARTS LISTS

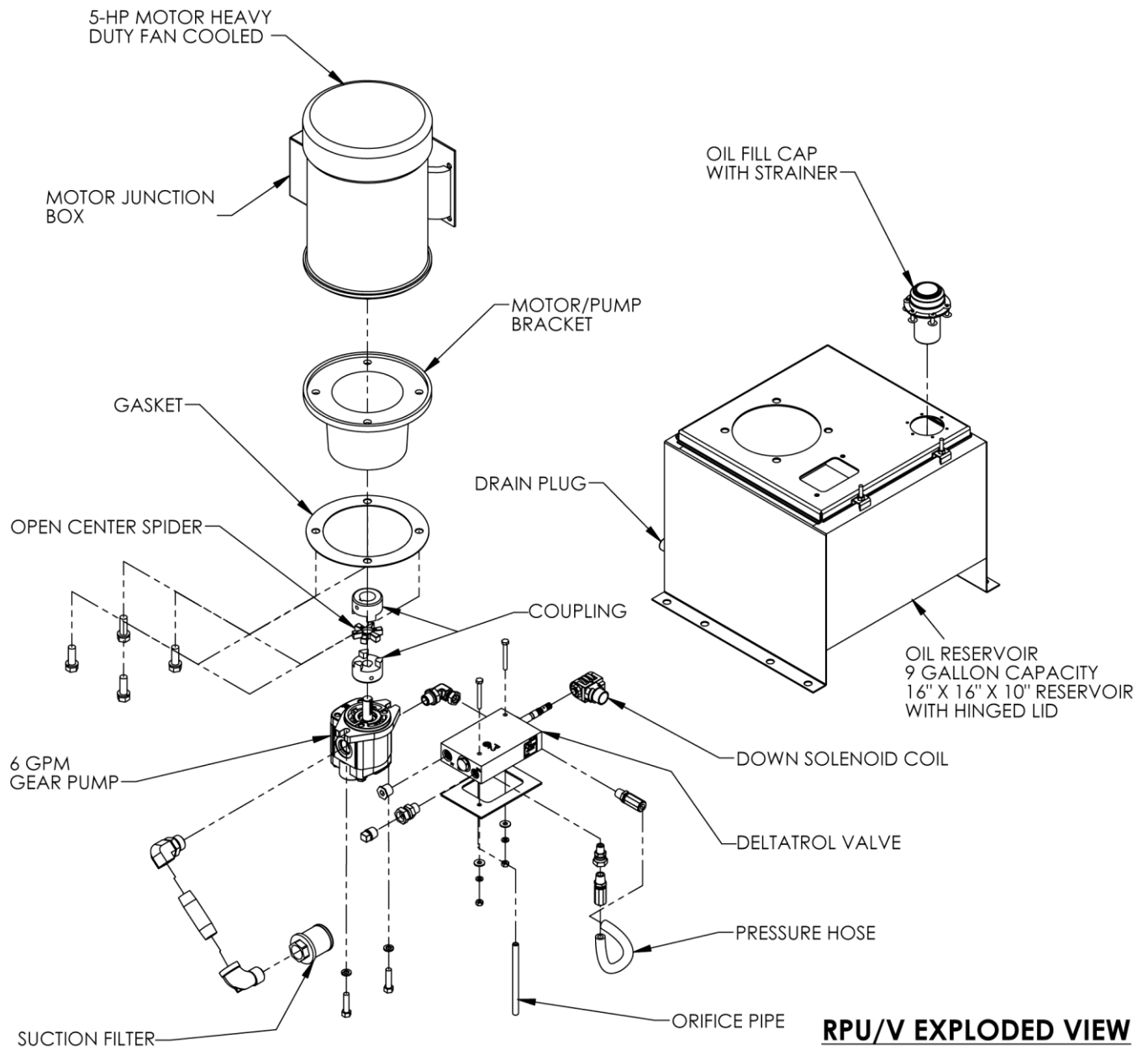


Standard Power Unit

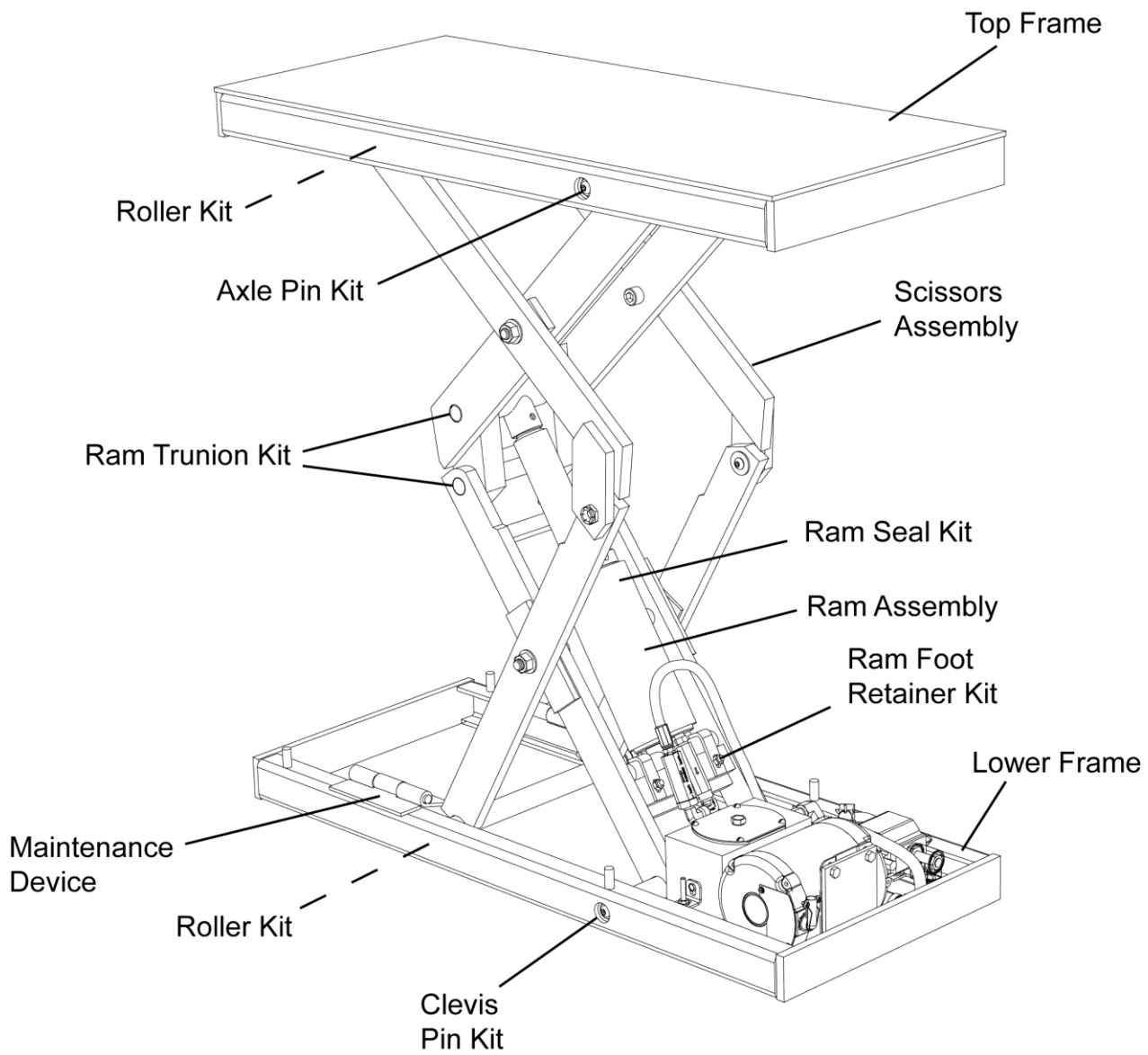


RPU/C EXPLODED VIEW

Contractor Style Power Unit



Heavy Duty Power Unit



Lift Parts Diagram