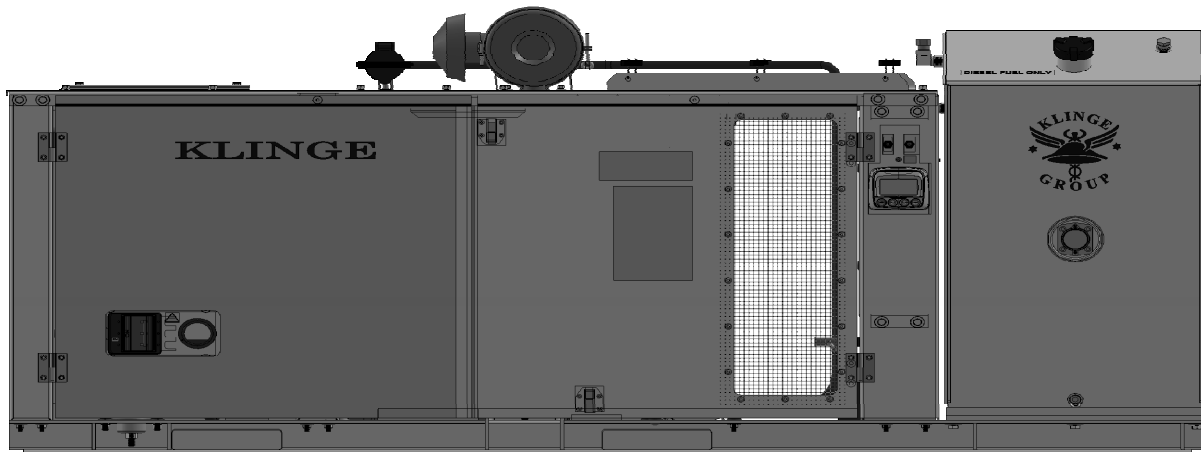


KLINGE



MODEL NMG-118-T4

OPERATION, SERVICE AND PARTS MANUAL



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MANUFACTURED BY KLINGE CORPORATION

Table of Contents

Service Request	4
Spare Parts Request	4
Use of this Manual	4
SECTION 1 SPECIFICATIONS	5
1.1 GENERAL	5
1.2 CONSTRUCTION	5
1.3 ENGINE	5
1.4 ALTERNATOR	5
1.5 TEMPERATURE OPERATING RANGE	5
1.6 WEIGHT	5
1.7 MOUNTING	5
1.8 FUEL SUPPLY	5
1.9 POWER SUPPLY	6
1.10 CONTROLS	6
1.11 ELECTRICAL STARTING SYSTEM	6
1.12 FUEL SYSTEM	6
1.13 LUBRICATION SYSTEM	6
1.14 COOLING SYSTEM	7
1.15 COMBUSTION AIR CLEANING SYSTEM	7
SECTION 2 SAFETY PRECAUTIONS	8
2.1 ROTATING HAZARDS	8
2.2 BATTERY HAZARDS	8
2.3 NOISE HAZARD	8
2.4 ELECTRICAL HAZARDS	8
2.5 GENERAL SAFETY PRECAUTIONS	9
2.6 SAFETY DO'S AND DON'TS	10
SECTION 3 GENERATOR SET OPERATION	11
3.1 PRE-START INSPECTION	11
3.2 STARTING THE UNIT	11
3.3 AFTER START CHECK-UP	11
3.4 SHUTTING OFF THE ENGINE	11
3.5 LED INDICATORS	12
3.6 ENGINE SPEED (RPM)	12
SECTION 4 MAINTENANCE AND COMPONENT INFORMATION	14
4.1 FUEL SYSTEM	14
4.2 COMBUSTION AIR INTAKE SYSTEM	14
4.3 LUBRICATION	14
4.4 COOLING SYSTEM	14
4.5 FAN BELT	15
4.6 BATTERY	15
4.7 STARTER AND BATTERY CHARGING ALTERNATOR	15
4.8 SERVICING SCHEDULE	16
4.9 PTI FORM	16
SECTION 5 TROUBLESHOOTING	17
5.1 TROUBLE SHOOTING	17
SECTION 6 SERVICE PARTS	21

Service Request

Requests for Service should be directed to the Klinge Service Team. The below link should be used to place all requests for service and will afford the quickest response time.

<https://klingecorp.com/request-service/>

This form will help us determine model and age of the equipment, location, basic details about the issue, who to contact and how to best handle the issues with the equipment. A service ticket number will be provided in a response email once the form is received and processed. If the equipment is out of warranty, charges may apply for extensive technical support.

Additionally, our Service Department can be reached via email at technical@klingecorp.com.

Spare Parts Request

Requests for Spare Parts should be directed to our Parts Department via email at spares@klingecorp.com. Please have available at the time of the request the Serial Number of the equipment to ensure that the proper part is provided.

Use of this Manual

The use of this manual is intended for the safe operation of the equipment described. It is therefore reasoned that persons who have the occasion to use this manual have a knowledge of mechanical and electrical systems and components addressed by its' contents. However, efforts have been made to enable persons less familiar with these systems to use this manual.

The equipment may be installed in a number of configurations. Each may have optional items and differing external details provided by third parties. The specific electrical diagram is posted on the unit as decals.

Suggestions as to improvement in content and format are welcome and should be addressed to engineering@klingecorp.com. Corrections and improvements will be included on dated revisions – the latest of which will be available upon request.

SECTION 1 SPECIFICATIONS

1.1 GENERAL

The NMG-118-T4 (Nose Mount Generator Set) was specifically designed to meet the rigorous demands of ocean, over-the-road, and rail transport of 20' and 40' refrigerated containers. The NMG-118 can be mounted quickly in the nose of a container, using only four bolts.

1.2 CONSTRUCTION

Welded aluminum frame
Aluminum doors and closures
Stainless steel hardware

1.3 ENGINE

ISUZU 4LE2 Tier 4/Stage 3B
Liquid cooled diesel, four cylinder; 2.2L; 4 stroke; OHV; direct injected; turbocharged; glow plug assisted Start.
30 kW (40.2 BHP) @ 1800 RPM rated output

1.4 ALTERNATOR

28.4 kW / 35.5 kVA RFL, specifically designed for starting 3 phase AC electrical motors.
Single bearing, 10 lead, 1800 RPM, Y 480 volts, 0.8 power factor lagging.
NOTE: The output voltage is not adjustable but is directly related to the engine's speed.
Normal readings at 1800 RPM (60 Hz) are between 460 and 500 V.

1.5 TEMPERATURE OPERATING RANGE

From -30°C to +50°C (-20°F to +125°F)

1.6 WEIGHT

- 500 kg (1100 lbs.) without fuel
- 685 kg (1510 lbs.) with full fuel tank

1.7 MOUNTING

Mounting clip in back, 4 bolts in front

1.8 FUEL SUPPLY

The generator set has an incorporated fuel tank with a capacity of 170 L (45 US gallons) that can provide approximately 45 hours of operation under full load.

1.9 POWER SUPPLY

STANDARD: 18 kVA - 460 V AC / 3 phase / 60 Hz
40 A power circuit breaker
CEE 17 - 32 A power receptacle

1.10 CONTROLS

- Two toggle switches
 - Start switch: OFF-ON-START
 - Engine speed switch: 1000 RPM-1800 RPM
- Isuzu Power View monitors:
 - ENG RPM
 - OIL PRESS
 - COOL TEMP
 - BAT VOLT
 - ENG TORQ
 - MACH HRS
 - FUEL TEMP
 - FUEL RATE
 - INT MFLD T
 - BOOST PRESS
 - SYS VOLT
 - BOST PRES2

1.11 ELECTRICAL STARTING SYSTEM

- Battery: 12V, Group 31 – 950 CCA @ 0°F
- Battery Charging Alternator: 20 or 35 A, 14 VDC
- Starter Motor: 2.0 kW, 12V Gear Reduction type
- Glow plug assisted start with control resistor

1.12 FUEL SYSTEM

- Pre-Fuel Filter w/Water Sedimenter, paper element type w/drain, remote mount
- Pre-Pump, electrical 12 V fuel supply pump, remote mount
- Main Fuel Filter w/Water Sedimenter paper element type with priming pump, w/drain, remote mount
- Engine integrated fuel pump
- Direct injection cylinders

1.13 LUBRICATION SYSTEM

- Full pressure system with trochoid type Oil Pump, driven from the crankshaft.
- Oil pan made out pressed stamped steel, full sump, with a capacity of 8.4 liter (8.9 U.S. quarts).
- Full flow, spin-on Oil Filter, replaceable paper element type.

1.14 COOLING SYSTEM

- Pressurized liquid (50/50 water / glycol mixture) forced circulation by Centrifugal Pump.
- Thermostat, wax pellet type, opening at 76.5°C (170°F).
- Cooling fan suction type, plastic 6 blades, 400mm (15.75") diameter
- Heavy duty 4 row, 3 pass copper / brass Radiator.
- High coolant temperature switch, normal open, single pole, closing at 105°C (221°F).

1.15 COMBUSTION AIR CLEANING SYSTEM

- One high performance single stage Cyclopac® air filter with extended life dry cartridge and automatic dust and water expelling Vacuator™ Valve.
- Air cleaner restriction indicator for maximum filter life.

SECTION 2 SAFETY PRECAUTIONS

Safety Glasses should be worn at all times when operating or servicing the Generator Set.

2.1 ROTATING HAZARDS

1. Keep your hands, clothing, and tools clear of the alternator belt when the generator set is running.
2. If it is necessary to run the generator with a removed cover, be very careful with tools or meters being used in that area to avoid contacting the rotor.

2.2 BATTERY HAZARDS

Few people realize just how dangerous a battery can be.

The electrolyte in a lead acid battery is dilute sulfuric acid (H₂SO₄). During charge or discharge functions of a battery, a chemical change takes place within the individual cells that cause the bubbling we see through the filler hole. This gas bubbling is hydrogen and oxygen, and it is **EXPLOSIVE**. If during this gassing action, a means of ignition is present, an explosion could occur. A defective battery may suddenly explode even while standing idle. Added to this danger, consider a fall-out of highly corrosive sulfuric acid caused by the explosion.

PRECAUTIONS

1. Always wear eye protection when servicing batteries. If electrolyte is splashed on the skin or in the eyes, flush immediately under running water. Obtain medical help as soon as possible.
2. When charging batteries, do not remove the vent caps.
3. When disconnecting or reconnecting the generator set battery make sure the ON/OFF switch is in the **OFF** position to prevent an arc, which could cause the battery to explode. Disconnect the ground cable first, preferably at a point away from the battery. Reconnect the ground cable last, again away from the battery if possible.
4. **DO NOT** check a battery by "**sparking**" across the posts. Eye injury from the arc or explosion may occur.

2.3 NOISE HAZARD

When servicing or operating the Generator Set in a running condition, personal protective hearing equipment should be worn when exposure is longer than 8 hours.

2.4 ELECTRICAL HAZARDS

HIGH VOLTAGE

When servicing or repairing a generator set, the possibility of serious or even fatal injury from electrical shock exists. Extreme care must be used when working with an operating generator. Lethal voltage potentials can exist on connections that are in the exciter control box.

Special attention should be given to the Main Power Plug and Receptacle when disconnecting from each other. When disconnecting these two items ensure that the power circuit breaker has been turned to the off position. Do not pull at the cable but rather with a firm grip on the housing,

grab the plug and receptacle and pull apart. If the cable is used rather than the housing the risk exists that the wires within the housing could become dislodged and lead to a future electrical hazard.

PRECAUTIONS

1. When working on high voltage circuits on the generator sets, **DO NOT** make any rapid moves. If a tool drops, **DO NOT** grab for it. People do not contact high voltage wires on purpose. It occurs from an unplanned movement.
2. Make sure of your footing. If you slip, you will instinctively grab for support. This can be lethal around a generator set. Work on rubber mats or dry wood if possible.
3. Use tools with insulated handles that are in good condition. Never hold metal tools in your hand if exposed energized conductors are within reach.
4. Treat all wires and connections as high voltage until a meter and wiring diagram show otherwise.

IMMEDIATE ACTION must be initiated after a person has received an electrical shock. Obtain expert medical assistance if available.

Immediately remove the source of shock by either shutting it down or removing the victim from the source. If it is not possible to shut off the generator set, the wire should be cut with an insulated tool (e.g. a wooden handled axe or cable cutters with heavy insulated handles), or a rescuer wearing insulated gloves. Whichever method is used, **DO NOT** look at the wire while it is being cut. The ensuing flash can cause blindness. Remember that insulated gloves **MUST BE** insulated and not just rubber gloves manufactured for protection from liquids. If the victim has to be removed from live circuitry, pull him off with a non-conductible material. Use his coat, a rope, a piece of dry wood or loop your belt around his leg or arm and pull him off. **DO NOT TOUCH THE PERSON**, you could receive a shock from current flowing through his body. After separating the victim from the power source, check immediately for respiration and presence of pulse. If a pulse is present, respiration might be restored by mouth-to-mouth resuscitation.

LOW VOLTAGE

Control circuits utilized by the generator set are low voltage (12 VDC). This voltage potential is not considered dangerous, but the large amount of current available (over 300 amps) can cause severe burns if shorted to ground.

1. Disconnect the negative terminal of the battery if possible when working on the generator set. Disconnect the cable end that is away from the battery.
2. **DO NOT** wear jewelry, watches, or rings. These items can short out and cause severe burns to the wearer.

2.5 GENERAL SAFETY PRECAUTIONS

1. To prevent against a possible personnel burn injury the following precautions should be followed:
 - a. Do not touch the muffler, exhaust pipe or exhaust manifold while the unit is in operation or immediately after stopping the unit. The unit should be allowed to cool to an acceptable level prior to performing service in these areas.
 - b. Do not touch the radiator cap or attempt to add coolant to the engine while the unit

is in operation or immediately after stopping the unit. The unit should be allowed to cool to an acceptable level prior to opening the radiator cap.

2. Use extreme caution if holes are drilled into the generator set. Holes drilled into an electrical wire can cause fire, explosion, or shock hazard.
3. Ensure all mounting screws are tight and are the correct length.
4. Keep tools and equipment clean and in good working condition. Accidents occur when you attempt procedures without the proper tools.

2.6 SAFETY DO'S AND DON'TS

DON'T -

DON'T allow inexperienced personnel to work on the generator or electrical equipment.

DON'T remove guards or protective devices.

DON'T wear loose clothing or jewelry in the vicinity of moving parts. These can get in machinery, with disastrous results.

DON'T wear jewelry while working on electrical equipment. If your hair is long, wear a head covering. Hair caught in a drill press, fan belt or other moving part can cause serious injury.

DON'T stand on a wet floor while working on electrical equipment. Use rubber insulated mats placed on dry wood platforms.

DON'T lunge after a dropped tool. To do so may place you in a position of extreme danger.

DON'T commence any operation until you have taken all the necessary steps to ensure that you are in complete safety.

DO -

DO perform your tasks carefully, without undue haste.

DO provide fire extinguishers (rated ABC).

DO provide a First Aid Kit (for burns and abrasions). Obtain medical attention, if necessary.

DO use the correct tools for the job you are doing.

DO make sure that all fasteners are secure.

DO use extreme care while making adjustments on the generator set while it is running.

DO keep your hands away from moving parts.

DO remember - Horseplay is for horses! It has no place around machinery.

DO disconnect batteries before starting work on the generator set.

DO use screwdrivers, pliers, diagonal pliers, etc. with insulated handles.

DO remember to keep one hand in your pocket if it is necessary to work on "live" circuits. To do so will prevent passage of electricity into one hand and out the other, which passes current across the heart.

DO PRACTICE SAFETY. THE LIFE YOU SAVE MIGHT BE YOUR OWN

SECTION 3 GENERATOR SET OPERATION

3.1 PRE-START INSPECTION

1. Check fuel level - Use Diesel fuel SAE No. 2-D, No. 1-D in cold weather, or any other equivalent low sulphur content diesel fuel as DIN EN 590; BS 2869 Class A-1; JIS No.2; NATO Code F-54 / F-34 / F-44 and XF-63.
2. Check engine oil level – should be at full mark
Use SAE multi-grade oil 10W-40 API rating CC/CD or higher for normal operation and SAE 5W-20 when operating at temperatures below -4°F (-20°C).
3. Check coolant level – should be between the two marks on the overflow bottle.
4. Check fan belt for tension and integrity.
5. Make sure that the generator's main circuit breaker located in the window of the genset left-hand door is in "OFF" position (right).
6. Ensure the refrigeration unit plug is connected to the generator set power receptacle.

3.2 STARTING THE UNIT

1. Ensure the Engine Speed Switch is set to 1000 RPM.
2. Move the OFF-ON START switch to ON, when the PREHEAT LED goes out (will not illuminate in warmer ambient conditions) toggle the switch to START. Release the switch when the engine has started.
3. Allow the engine to run for a minimum of 10 seconds to become stable at 1000 RPM.
4. Change engine speed switch to 1800 RPM.

3.3 AFTER START CHECK-UP

Look for the following in the Power View window:

- ENG RPM = 1800 ±5
- BAT VOLT = 12.8 VDC or greater
- OIL PRESS = 2 BAR or higher

When the above conditions are met it is safe to switch the main circuit breaker to ON.

There are several safety devices employed to prevent damage to the engine, or the electrical system, should a potentially dangerous situation occur.

The 25 A circuit breaker protects DC components and wiring from a short circuit situation. The circuit breaker will reset periodically until the short circuit is removed.

WHEN A DC CIRCUIT BREAKER IS REPLACED IT MUST BE INSTALLED PROPERLY WITH THE "BAT" TERMINAL CONNECTED TO THE LINE OR BATTERY SIDE OF THE CIRCUIT AND THE "AUX" TERMINAL CONNECTED TO THE LOAD SIDE OF THE CIRCUIT AS INDICATED ON THE CIRCUIT BREAKER.

Two safety shutdown devices are used to protect the engine. One is the high temperature switch that actuates at 221°F (105°C). The other is an oil pressure switch that actuates at 14 psi (1kg/cm²).

3.4 SHUTTING OFF THE ENGINE

Switch the engine speed to 1000 RPM and allow to run for 3 minutes before switching the start switch to OFF. This will give time for the turbo to cool, extending the life of the turbo/engine.

3.5 LED INDICATORS

The electrical control system is provided with a high intensity red LED located on the upper front of the control box.

This red LED indicates when it is safe to start the engine, based on the temperature following the system's use of glow plugs in low ambient temperature conditions.

3.6 ENGINE SPEED (RPM)

The engine must be set to run at 1000 RPM at start-up.

After allowing the engine to run for 10 seconds to warm up the turbo, the engine speed switch is to be set to 1800 RPM before a load is put on genset.

SECTION 4 MAINTENANCE AND COMPONENT INFORMATION

4.1 FUEL SYSTEM

The fuel injection pumps and fuel injection nozzles are precisely manufactured and therefore using fuel which contains water or dust particles will result in equipment seizure, costly damages and decreased engine output.

Replace fuel filter element after every 500 hrs of operation.

Use KLINGE K26-25310-08 pre-filter element and K26-25310-09 main filter element.

Before starting the unit check for leaks and for water in the filter bowl. Drain if necessary.

Use SAE No.2-D Diesel fuel, 1-D in cold weather.

The following standards are also approved: DIN EN 590; BS 2869 Class A-1; JIS No.2; NATO Code F-54 / F-34 / F-44 and XF-63.

DO NOT USE:

- Diesel fuel that has been contaminated with engine oil, this can cause engine damage and can also affect emission control.
- Fuel additives, except “Biocide” type, if required.

4.2 COMBUSTION AIR INTAKE SYSTEM

Engine performance and life depends on the intake air condition.

Replace air filter cartridge after every 500 hours of operation.

Use KLINGE K26 25091 08 filter cartridge.

After 100 hours of operation, or more often if the generator set is operated in a dusty environment, remove the filter cartridge and blow air at a pressure of 3 – 6 BAR (45 –70 PSI) only from the inside, to remove the dust.

Take care to not damage the filter element during the cleaning and to not cause air leakage (sucking) when the air cleaner is reassembled.

4.3 LUBRICATION

A correct oil and filter service will ensure good performance and a long engine life.

Change oil and filter after initial 50 hours of operation.

Afterwards change the oil every 250 hours and filter every 500 hours of operation or at least once in a year.

Use SAE multi-grade oil SAE 10W-40 API rating Cj-4 or higher and SAE 5W-20 when operating at temperatures below -20°C (-4°F).

Use KLINGE XB-998209 filter element.

Check the oil level before every start, add oil if required, up to the FULL mark.

CAUTION: Never mix up different brand or different type of oils.

4.4 COOLING SYSTEM

Use 50/50 Ethylene Glycol / Water solution. Never exceed 60 / 40 antifreeze water mix.

NOTE: Concentrations over 65% Ethylene Glycol adversely affect freeze protection, heat transfer rates and silicate stability that may cause water pump leakage.

Replace coolant every two years.

Check the hoses and pump for leaks and the coolant level, before every trip of the unit. With a cool engine the liquid level should be between the two marks on the expansion tank.

4.5 FAN BELT

Check the fan belt for tension and integrity before every start.

Replace if necessary, using KLINGE K26 25310-20 belt.

4.6 BATTERY

Keep the battery fully charged all the time, it is important especially in cold seasons.

Keep the battery posts clean and the battery cables tightened securely.

Always disconnect the battery negative cable when work on the unit is performed.

If distilled water is needed to be added, do it before the unit will be operated, otherwise the water will not mix with the acid and can freeze in cold weather.

4.7 STARTER AND BATTERY CHARGING ALTERNATOR

The starter and the battery charging alternator servicing consists of:

- Check the carbon brushes and the brush contact.
- Clean the alternator slip ring.

Avoid spraying water or steam on the alternator and on the starter, it may cause damage.

4.8 SERVICING SCHEDULE

	Daily or Weekly	Initial 50 Hours	Every 250 Hours	Every 500 Hours	Every 1000 Hours	Every 2000 Hours
GENERATOR SET (NMG-118)						
Check Fuel Level / add if needed	X					
Check sediment bowl on fuel filter (Drain water and clean if needed)		X	X			
Replace Fuel Filter				X		
Replace Air Filter Insert (More frequent may be required based on operating area)				X		
Check Oil Level / add if needed	X					
Replace Oil Filter		X		X (Min Yearly)		
Replace Oil		X	X (Min Yearly)			
Check for fluid leaks	X	X				
Check radiator coolant level/ add if needed	X					
Inspect and if needed clean radiator fins			X			
Flush radiator and replace coolant and hoses						X
Inspect and adjust cooling fan V-belt		X	X			
Replace V-belt						X
Inspect and clean Vacuator valve (Air Filter)			X			
Check engine for unusual noises or exhaust smoke	X		X			
Ensure battery terminals are tight			X			
Check main circuit breaker plastic boot			X			
Inspect unit and generator set for damaged, loose, or broken parts, missing bolts			X			
Check condition of mounting bolts		X	X			
Check condition of engine and alternator mounts (replace if necessary)		X			X	

- In addition to the above checklist the normal Pre-Trip Inspection Form should also be completed every 2 months.

4.9 PTI FORM

It is important that a Pre-Trip Inspection (PTI) be completed prior to each shipment.

The NMG-118-T4 PTI form can be found on Klinge's website at:

<http://www.klingecorp.com/pti/>

SECTION 5 TROUBLESHOOTING

5.1 TROUBLE SHOOTING

The following trouble shooting chart is by no means complete, but covers the more general type problems, which would most likely occur if a breakdown is experienced.

POSSIBLE CAUSE	CORRECTIVE ACTION SUGGESTED
-----------------------	------------------------------------

Problem: Engine starter will not energize

Loose or corroded battery terminals	Clean terminals and tighten
Battery voltage too low	Recharge or replace battery
Faulty START / PREHEAT switch	Replace
Faulty ON / OFF switch	Replace
Faulty starter solenoid	Replace
Faulty starter motor	Replace
Circuit breaker open	Replace if it does not reset

Problem: Starter turns but engine does not ignite

Faulty control relay R1	Replace
Faulty emergency stop timer	Replace
Faulty engine fuel solenoid	Replace
Control rack is stuck in stop position	Remedy
Engine too hot and protection system will not allow to operate	Allow engine to cool
Faulty coolant temperature switch	Replace switch
Faulty electrical fuel pump	Replace
No fuel	Add fuel to tank
Clogged fuel filter element	Replace

POSSIBLE CAUSE	CORRECTIVE ACTION SUGGESTED
-----------------------	------------------------------------

Problem: Engine starts but stalls immediately

Air in the fuel system	Remedy and bleed the system
Defective oil pressure switch Low oil pressure LED stays ON	Replace switch
Oil level to low	Add oil

Problem: Engine stops with high engine temperature indication

Coolant temperature too high	Check cooler for air flow restriction and clean or remove restriction
Coolant level too low	Add coolant
Defective high temperature switch	Replace switch
Thermostat malfunction	Replace
Fan belt slippage or broken	Remedy or replace

Problem: Black exhaust

Clogged air filter	Clean the filter cartridge or replace
Improper fuel – low cetane grade	Replace fuel
Nozzle damage	Repair or replace nozzle

Problem: White smoke

Water mixed in fuel	Replace fuel and clean fuel filter
Low compression pressure	Check compression
Low coolant temperature	Check thermostat and replace if needed

Problem: Unstable engine running (Hunting)

Defective governor spring	Replace
Incorrect valve adjustment	Adjust valve clearance

POSSIBLE CAUSE**CORRECTIVE ACTION SUGGESTED****Problem: No voltage at power receptacle but AC voltmeter needle is in the green band**

Main circuit breaker is on OFF position

Turn main circuit breaker ON

Defective main circuit breaker

Replace

Problem: No AC voltage

No residual magnetism in the alternator exciter field

Restore magnetism by flashing field

Open in main stator windings

Check for continuity in windings

* Open or short in rotating diodes

Check rotating diodes and replace if needed

* Open in alternator field

Check for continuity. If field coils are open, replace the rotor or repair it.

* Shorted exciter armature

Check for short and replace if faulty. Use a Kelvin type bridge to measure this resistance

* Shorted leads between exciter armature and generator field

Test and repair

NOTE: * Designated rotating parts. The rear alternator cover (bearing carrier) must be removed in order to perform the test.

For instructions how to perform the tests see "ALTERNATOR MANUAL" at the end of this Manual.

Problem: Low voltage

Low speed

Check engine speed or system for overload.

Excess load

Reduce load. The load on each leg should be as evenly balanced as possible and should not exceed the rated current on any leg.

High resistance connections –
Connections will be warm or hot

Make better connections, electrically and mechanically.

Shorted field

Test field coils for possible short. Use an Ohmmeter or resistance bridge. Repair or replace rotor if alternator field coils are shorted.

POSSIBLE CAUSE

CORRECTIVE ACTION SUGGESTED

Problem: Fluctuating voltage

Irregular engine speed

Check engine for malfunction.

Loose terminal or load connections

Make better connections.

Defective bearing causing uneven gap

Replace alternator bearing.

Problem: Overheating

Generator overloaded

Reduce load. Check with ammeter and compare with alternator nameplate rating.

Unbalanced load

The load on each leg should be as evenly balanced as possible and should not exceed the rated current on each leg.

Dry bearing

Replace bearing

Clogged vent ducts

Clean air passages

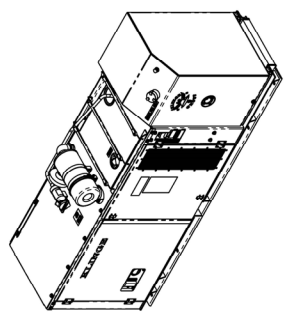
SECTION 6 SERVICE PARTS

LIST OF CONTENTS

Unit Genset NMG-Tier 4 Isuzu Engine/RFL Alternator 18 kW	22
Engine / Alternator Assembly Tier 4	31
Box Control	38
Alternator RFL-30 Modified w/Breaker Box	40

DRAWING NO.
460-18902-00

DO NOT SCALE



REV	DATE	DESCRIPTION	CHANGE NO	DRAWN	APPROVED
A	20221024	ITEM #27 QTY WAS 1, ITEM #29 WAS 360-18934-00 QTY 1, ITEM #51 QTY WAS 24, ITEM #52 WAS K21-50225-20 QTY 2, ITEM #53 QTY WAS 60, ITEM #60 QTY WAS 39, ITEM #68 QTY WAS 11, ITEM #73 QTY WAS 3, ITEM #74 QTY WAS 19, ITEM #80 QTY WAS 10, ITEM #89 QTY WAS 3, ITEM #104 WAS K25-2662--08 QTY 1, ADDED ITEMS #105 AND #106	22-237	NWB	BES
B	20221107	ITEM 23 WAS 360-18855-01	22-265	RJK	BES

ITEM NO	PART NO	DESCRIPTION	QTY	ITEM NO	PART NO	DESCRIPTION	QTY
106	K21-18426-02	CLAMP HOSE SS HD RANGE 1.2" - 2.1"	1	70	K21-16921-07	NUT LOCK, STAINLESS STEEL, 5/16 - 18	1
105	K21-16218-00	CLAMP HOSE, STAINLESS STEEL, 0.375 - 0.875 INCH	8	69	XB-209049	ROD BATTERY HOLD DOWN MMG-15-10	2
104	K28-10804-06	HOSE NEOPRENE PUSH LOCK BLACK (QTY IN FT)	12	68	K21-50421-08	WASHER LOCK, SPRING, SS, M8 X 15.4 X 2	33
103	K29-18430-03	HOOK STRAP SS 0.25 DIA. WIRE	6	67	K21-50401-08	WASHER FLAT, STAINLESS STEEL, M8 X 16 X 1.4-1.8	11
102	K28-10691-00	STRAP 15" LG NO HOOKS	3	66	K21-50225-25	SCREW HEX SS M8 X 1.25 X 25 LONG 18-8 FULL THREAD	11
100	K28-10797-00	GRDM 875x125x1875	1	65	K21-16245-00	WASHER FLAT SS #8	1
99	K28-25095-01	HOOD AIR INLET PLASTIC STYLE E FITS 250 OD FILTER	1	64	K21-16921-02	NUT LOCK SS NO 8-32 18-8	1
98	K26-11155-00	HOSE ADAPTER PVC VENT TUBE	1	63	XB-991634-10	SCR FLAT SS #8-32 X 1-1/4 PHIL 18-8	1
97	K28-11154-00	ELBOW 90 DEG 1.50" - 2.00" I.D. SILICONE	1	62	K21-50401-06	WASHER FLAT, STAINLESS STEEL, M6 X 12 X 1.4-1.8	7
96	K28-11156-00	ELBOW 90 DEG 2.00" - 2.25" I.D.	1	61	K21-16526-30	STUD FLUSH M6 X 10 X 30MM LG	2
95	K28-24667-00	BAND AIR CLEANER MTG 6.5 ID	2	60	K21-50421-10	WASHER LOCK, SPRING, SS, M10 X 18.4 X 2.5	15
94	K26-25091-02	FILTER, AIR, 1ST STAGE MODIFIED	1	59	K21-18510-38	WASH INSUL PVC M8 75.4 7.8 4MM OD/ID 0.02 IN 0.51MM	62
93	360-18925-01	AIR INTAKE ASSEMBLY PAINTED NMG TIER 4	1	58	K21-16638-25	SCREW HEX SS M8 X 1.25 X 20 18-8 FULL THREAD	36
92	K21-16684-00	CLAMP DUAL LINE 3/8" TO 3/4" OD	1	57	K21-50224-20	SCREW HEX SS M8 X 1.25 X 20 18-8 FULL THREAD	28
91	K21-10189-00	WASHER FLAT STAINLESS STEEL 1/4 X 0.28 X 0.63	6	56	K21-50421-06	WASHER LOCK, SPRING, SS, M6 X 12.2 X 1.5	18
90	K28-11147-00	FITTING 90-DEG BARB 3/8 HOSE 9/16-18 FEMALE	2	55	K21-50224-20	SCREW HEX SS, FULL THREAD, M6 X 10.0 X 20	12
89	K21-15649-15	CLAMP CUSH SS 32mm=1.25 ID	1	54	K21-18510-36	WASH INSUL PVC M6 19.6/5 2MM OD/ID 0.51MM THICK	28
88	K21-15649-03	CLAMP CUSHIONED STAINLESS STEEL, 1/2 INCH	2	53	K21-16547-08	WASHER FLAT, STAINLESS STEEL, M8 X 24 X 18	58
87	K21-10189-00	WASHER FLAT STAINLESS STEEL 1/4 X 0.28 X 0.63	6	52	K21-16583-08	NUT LOCK SS M8 X 1.25 NYLON INSERT	22
86	K21-14642-00	SCREW HEX SS 1/4-20 X 1/2 LG	6	51	K21-16231-00	CLAMP HOSE, STAINLESS STEEL, 0.75 - 1.50 INCH	2
85	K21-50103-06	NUT, HEX, STAINLESS STEEL, M6 X 1 X 10	9	49	K21-50224-18	SCREW, HEX, SS, FULL THREAD, M6 X 10.0 X 18	8
84	K21-50224-25	SCREW, HEX, SS, FULL THREAD, M6 X 10.0 X 25	6	48	K21-16583-06	NUT LOCK SS M6 X 1 NYLON INSERT	14
83	K21-16528-30	BOLT CARR SS M8 X 1.25 X 30	1	47	K21-16547-06	WASHER FLAT, STAINLESS STEEL, M6 X 18 X 1.6	34
82	060-09173-00	INSULATOR HINGE	4	46	K29-17879-01	HINGE SLIP SS 9/32 HOLES SOCKET	2
81	K21-18510-10	WASH INSUL PVC M10 31.8/13.3MM OD/ID 0.02 IN 0.51MM	8	45	XB-995029	SLEEVE FIBERGLASS 1.50D 1000 F	32
80	K21-16547-10	WASHER FLAT, STAINLESS STEEL, M10 X 30 X 2.5	12	44	K21-12930-00	CLAMP HOSE SS 106" TO 2"	2
79	K21-16583-10	NUT LOCK SS M10 X 1.5 NYLON INSERT	6	43	360-18895-10	EXHAUST ASSEMBLY PAINTED NMG TIER 4	1
78	K21-50226-30	SCREW, HEX, SS, FULL THREAD, M10 X 1.5 X 30	18	42	K23-10280-00	CLAMP HOSE (38 - 63) 5/16 WIDE SS	2
77	K21-16547-12	WASHER FLAT, STAINLESS STEEL, M12 X 37 X 3	8	41	XB-999057	CLAMP HOSE SS 156 TO 2.5 DIA. RANGE	8
76	K21-16583-12	NUT LOCK SS M12 X 1.75 NYLON INSERT	4	40	XB-998090	TUBE PVC CLEAR 5/76 ID. (INCHES)	4.5
75	K21-50227-90	SCREW, HEX, SS, FULL THREAD, M12 X 1.75 X 90	4	39	060-18393-00	HOSE RADIATOR INLET DAYCO	1
74	K21-50401-10	WASHER FLAT, STAINLESS STEEL, M10 X 20 X 2	15	38	060-18894-00	HOSE RADIATOR OUTLET NMG TIER 4	1
73	K21-50226-25	SCREW, HEX, SS, FULL THREAD, M10 X 1.5 X 25	1	37	060-14473-00	HOLDER RADIATOR OUTLET HOSE NMG-115-10	1

KLINGE
 4075 EAST MARKET STREET, YORK, PA 17402 USA

KLINGE CORPORATION
 UNIT GENSET NMG-TIER 4 ISUZU
 ENGINE/RFL ALTERNATOR 18 KW

DRAWN: NWB
 DATE: 20221011
 APPROVED: BES
 DATE: 20221017

SCALE: N/A
 SHEET TOP: 9
 SHEET SIZE: A2

REV: B

ITEM NO: 0K011
 DRAWING NO: 460-18902-00

NAME: NWB
 DATE: 20221011

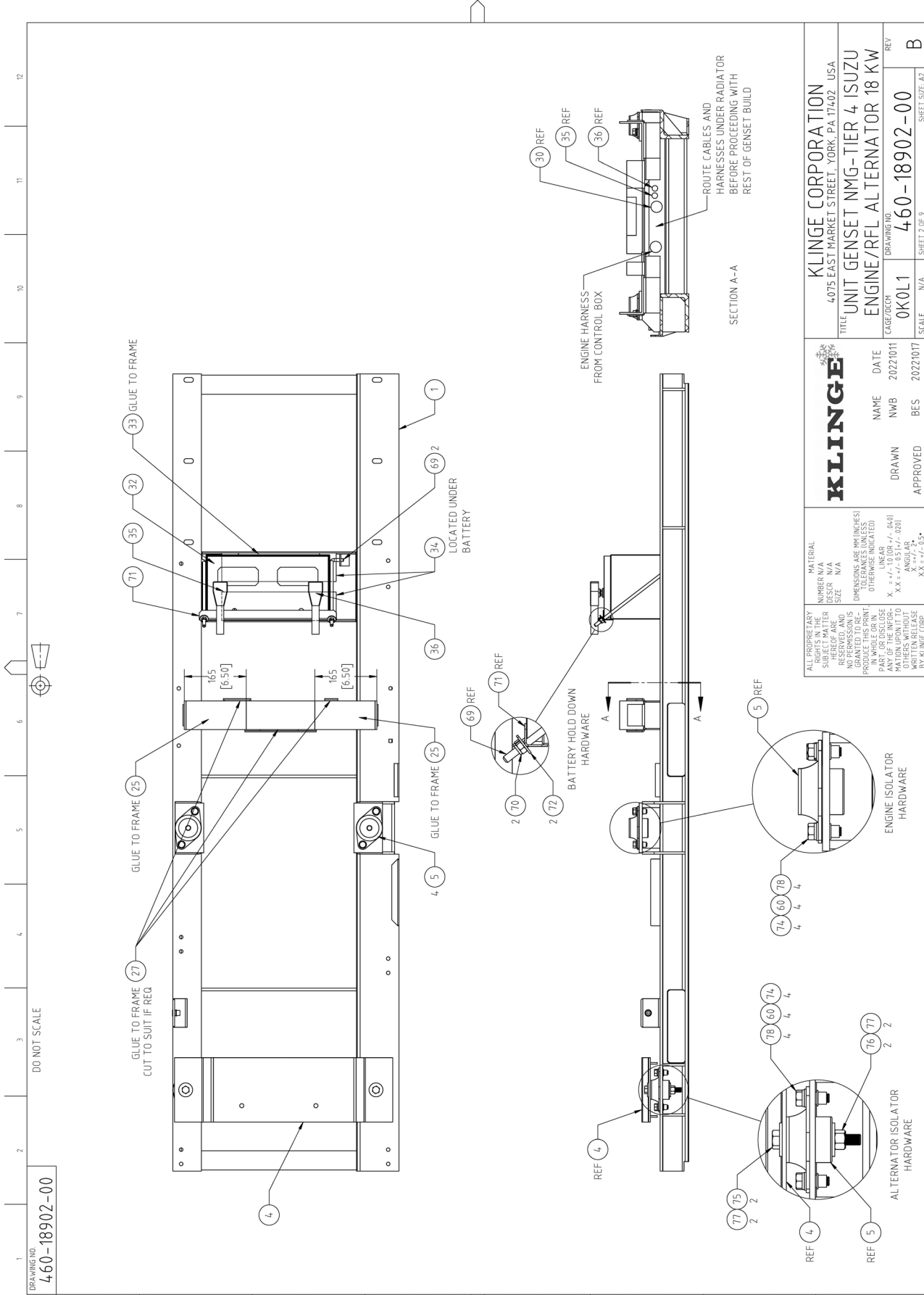
APPROVED: BES
 DATE: 20221017

DESCRIPTION: UNIT GENSET NMG-TIER 4 ISUZU ENGINE/RFL ALTERNATOR 18 KW

NOTES:

1. USE ANTI-SEIZE KLINGE P/N K13-02069-00 ON ALL STAINLESS STEEL FASTENERS

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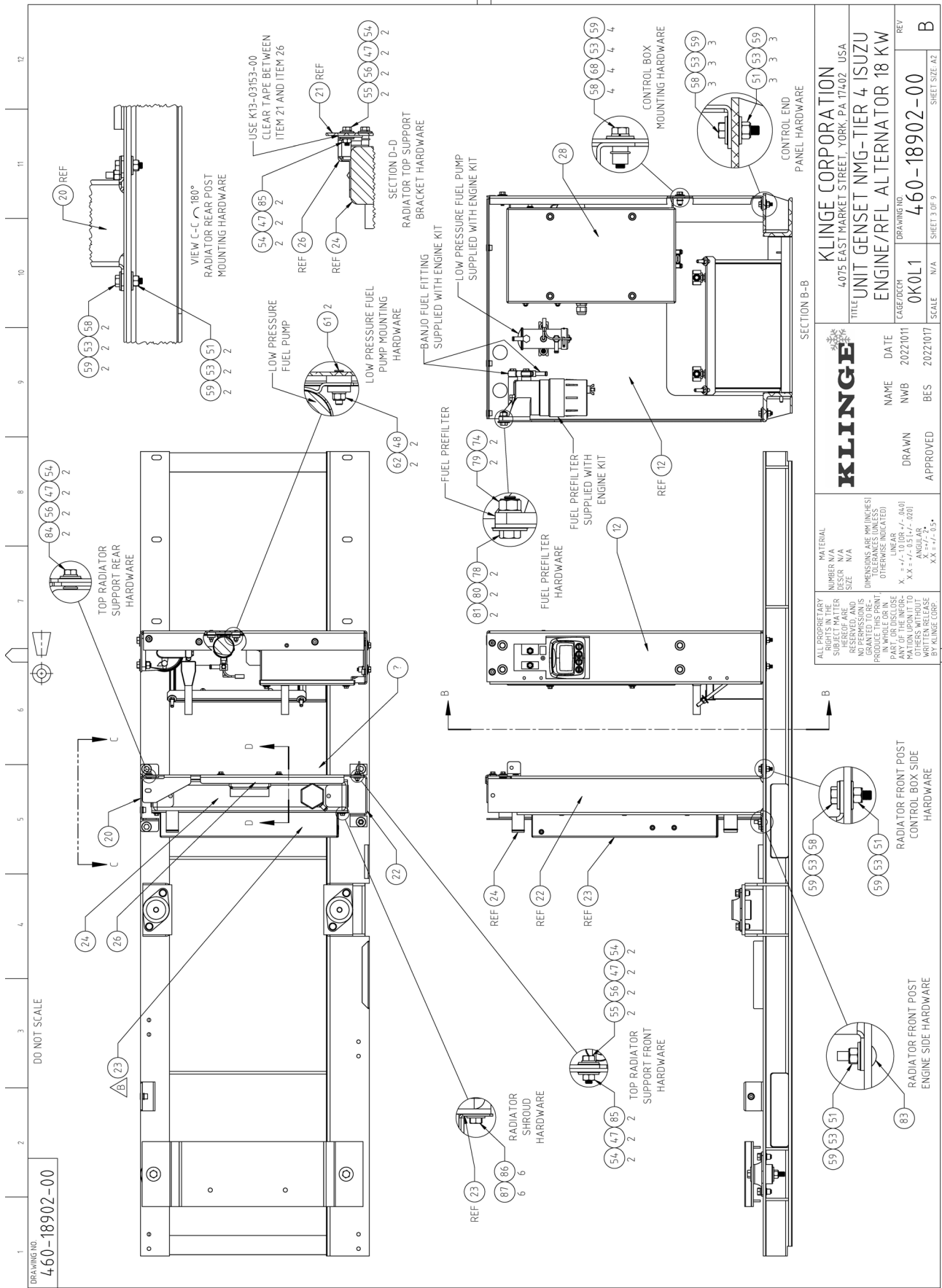


DO NOT SCALE
DRAWING NO.
460-18902-00

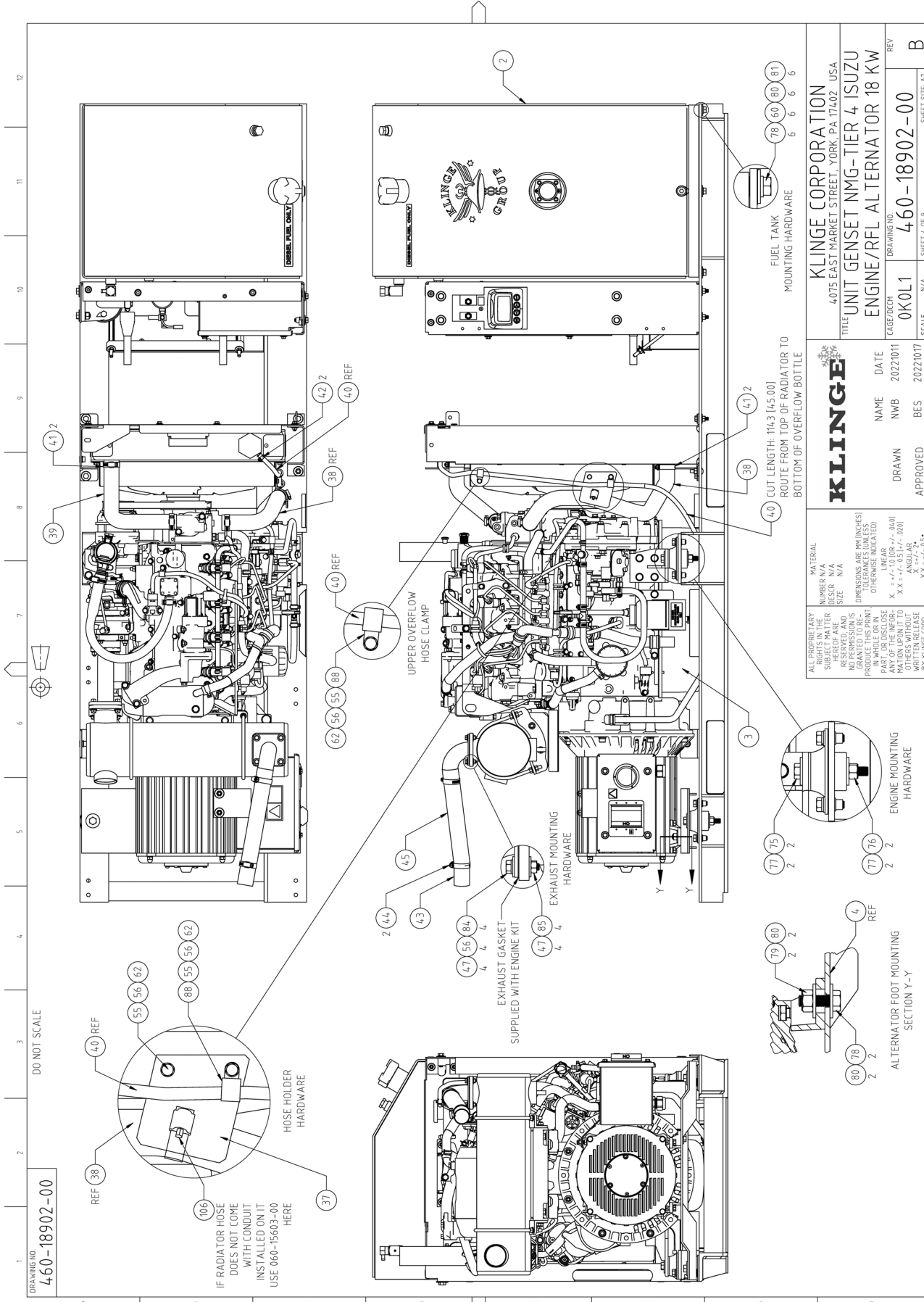
KLINGE CORPORATION 4075 EAST MARKET STREET, YORK, PA 17402 USA	
TITLE UNIT GENSET NMG-TIER 4 ISUZU ENGINE/RFL ALTERNATOR 18 KW	
CAGE/DCCH 0K011	DRAWING NO. 460-18902-00
SCALE N/A	SHEET SIZE A2

ALL PROPRIETARY INFORMATION SUBJECT MATTER HEREOF ARE UNDISCLOSED AND NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN RELEASE BY KLINGE CORP.	MATERIAL NUMBER N/A ISSUER N/A DATE N/A REVISIONS: DIMENSIONS ARE IN (INCHES) UNLESS OTHERWISE INDICATED LINEAR X = +/- .10 (OR +/- .040) XX = +/- .05 (OR +/- .020) ANGULAR X = +/- .5° XX = +/- .05°
NAME NWB	DATE 20221011
DRAWN APPROVED	BES 20221017

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UNCONTROLLED WHEN PRINTED

460-18902-00

DO NOT SCALE

DRAWING NO.
460-18902-00

REF 38

IF RADIATOR HOSE DOES NOT COME WITH CONDUIT INSTALLED ON IT USE 060-15603-00 HERE

HOSE HOLDER HARDWARE

EXHAUST GASKET SUPPLIED WITH ENGINE KIT

EXHAUST MOUNTING HARDWARE

ALTERNATOR FOOT MOUNTING SECTION Y-Y

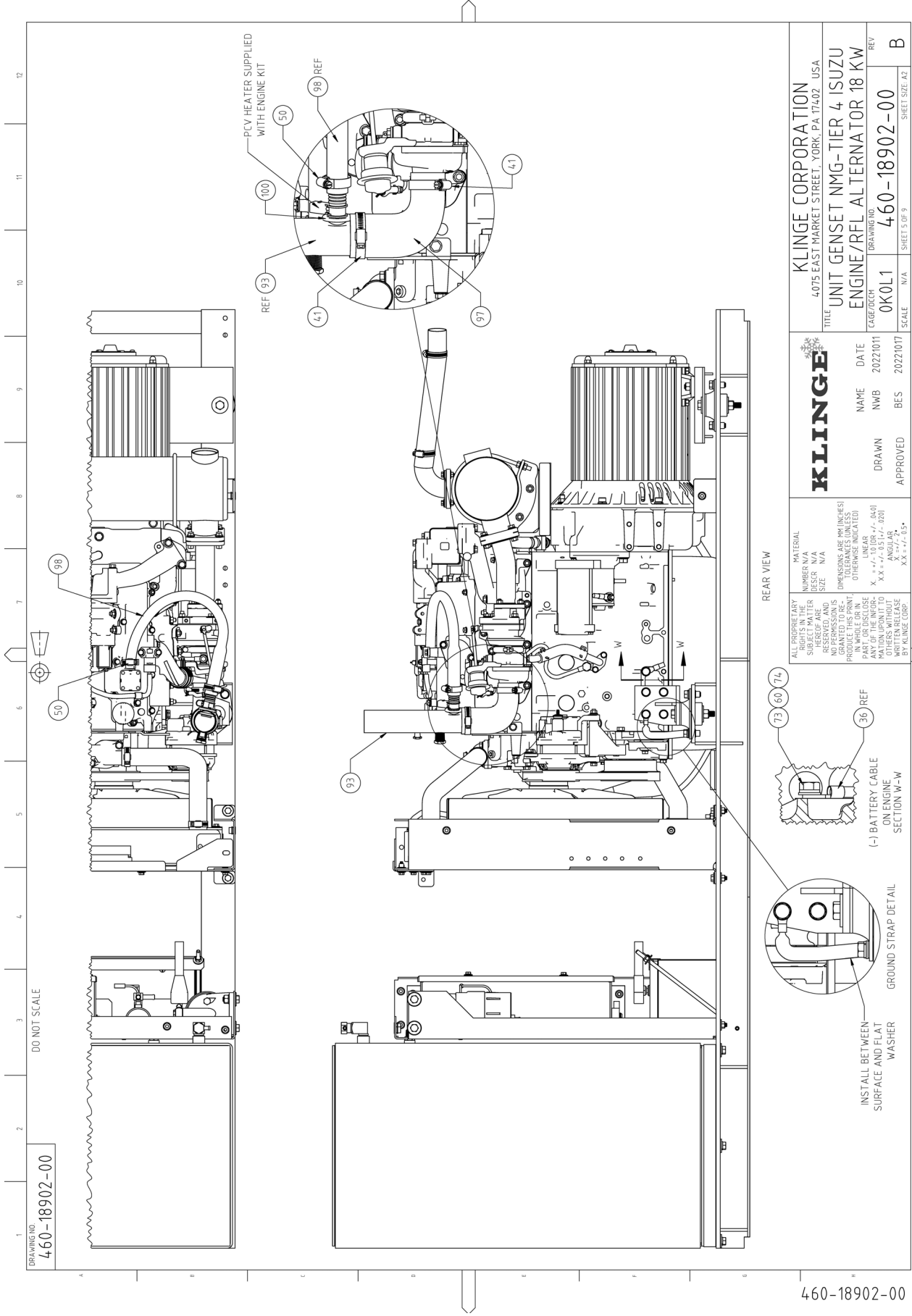
ENGINE MOUNTING HARDWARE

CUT LENGTH FROM TOP OF RADIATOR TO BOTTOM OF OVERFLOW BOTTLE

FUEL TANK MOUNTING HARDWARE

<p>KLINGE</p> <p>KLINGE CORPORATION 4075 EAST MARKET STREET, YORK, PA 17402, USA</p>		<p>TITLE UNIT GENSET NMG-TIER 4 ISUZU ENGINE/RFL ALTERNATOR 18 KW</p>	<p>REV B</p>
<p>NAME NWB</p>	<p>DATE 2022/01</p>	<p>DRAWING NO. 0K0L1</p>	<p>DRAWING NO. 460-18902-00</p>
<p>DRAWN APPROVED</p>	<p>BES</p>	<p>SCALE N/A</p>	<p>SHEET SIZE A2</p>
<p>ALL PROPRIETARY RIGHTS IN THE DESIGN AND CONSTRUCTION OF THIS PRODUCT ARE RESERVED AND WILL BE PROTECTED BY PATENT AND TRADE SECRET LAWS. ANY REPRODUCTION OR DISCLOSURE OF THIS INFORMATION WITHOUT THE WRITTEN RELEASE BY KLINGE CORP. IS STRICTLY PROHIBITED.</p>		<p>MATERIAL NUMBER N/A DESCR N/A SIZE N/A</p>	<p>DIMENSIONS ARE MM (INCHES) TOLERANCES UNLESS OTHERWISE SPECIFIED LINEAR X = +/- 1.0 (OR +/- 0.40) X.X = +/- 0.51 (+/- .020) X.XX = +/- .05*</p>

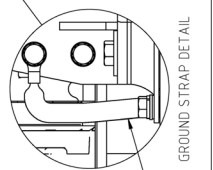
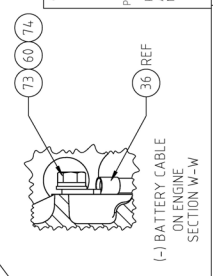
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DRAWING NO.
460-18902-00

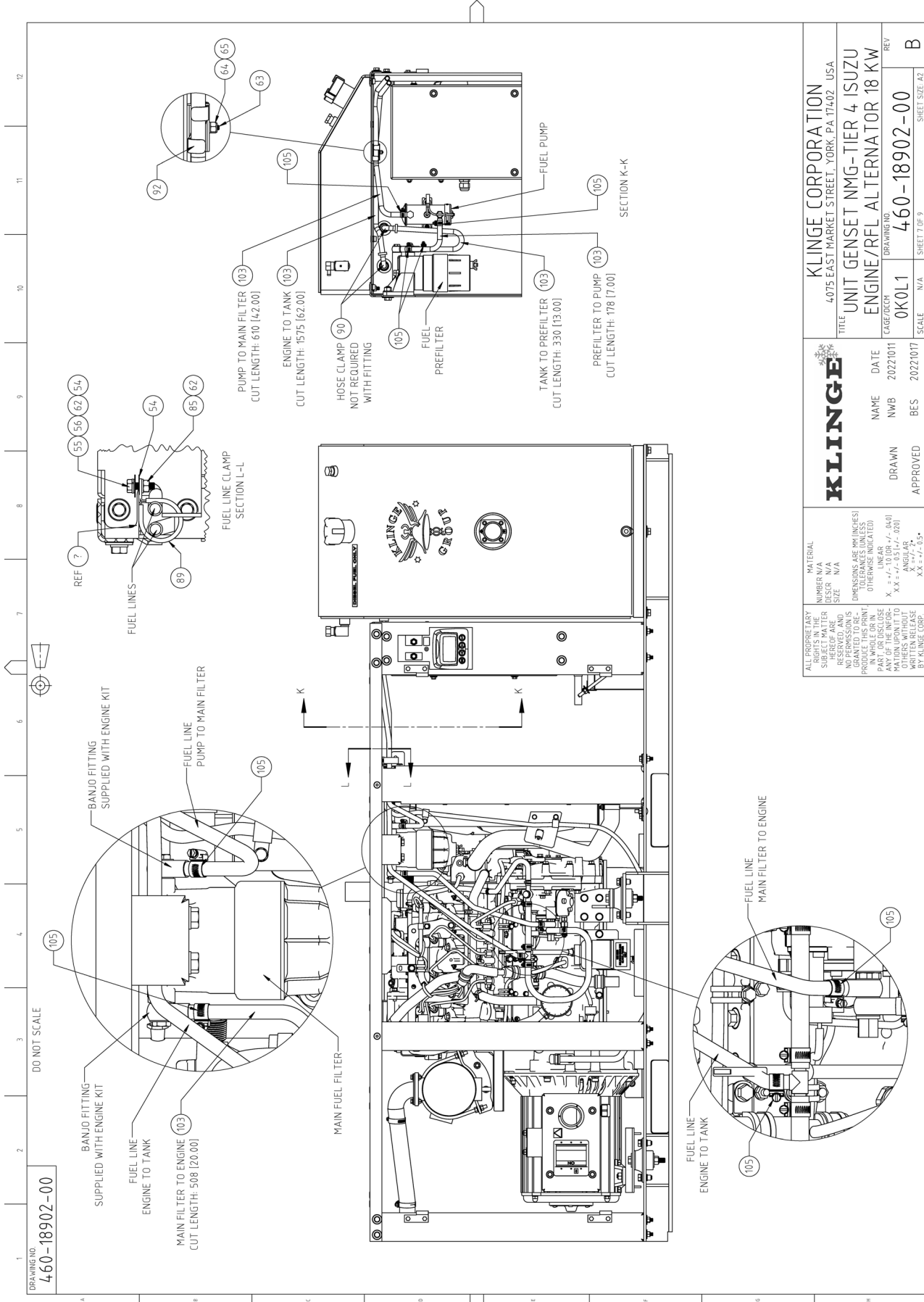
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TITLE UNIT GENSET NMG-TIER 4 ISUZU ENGINE/RFL ALTERNATOR 18 KW	
DRAWING NO. OK0L1	SCALE N/A
DATE 2022/01/11	REV B
NAME NWB	SHEET SIZE A2
DRAWN APPROVED	DATE 2022/01/17
DESIGNED BY BES	SCALE N/A

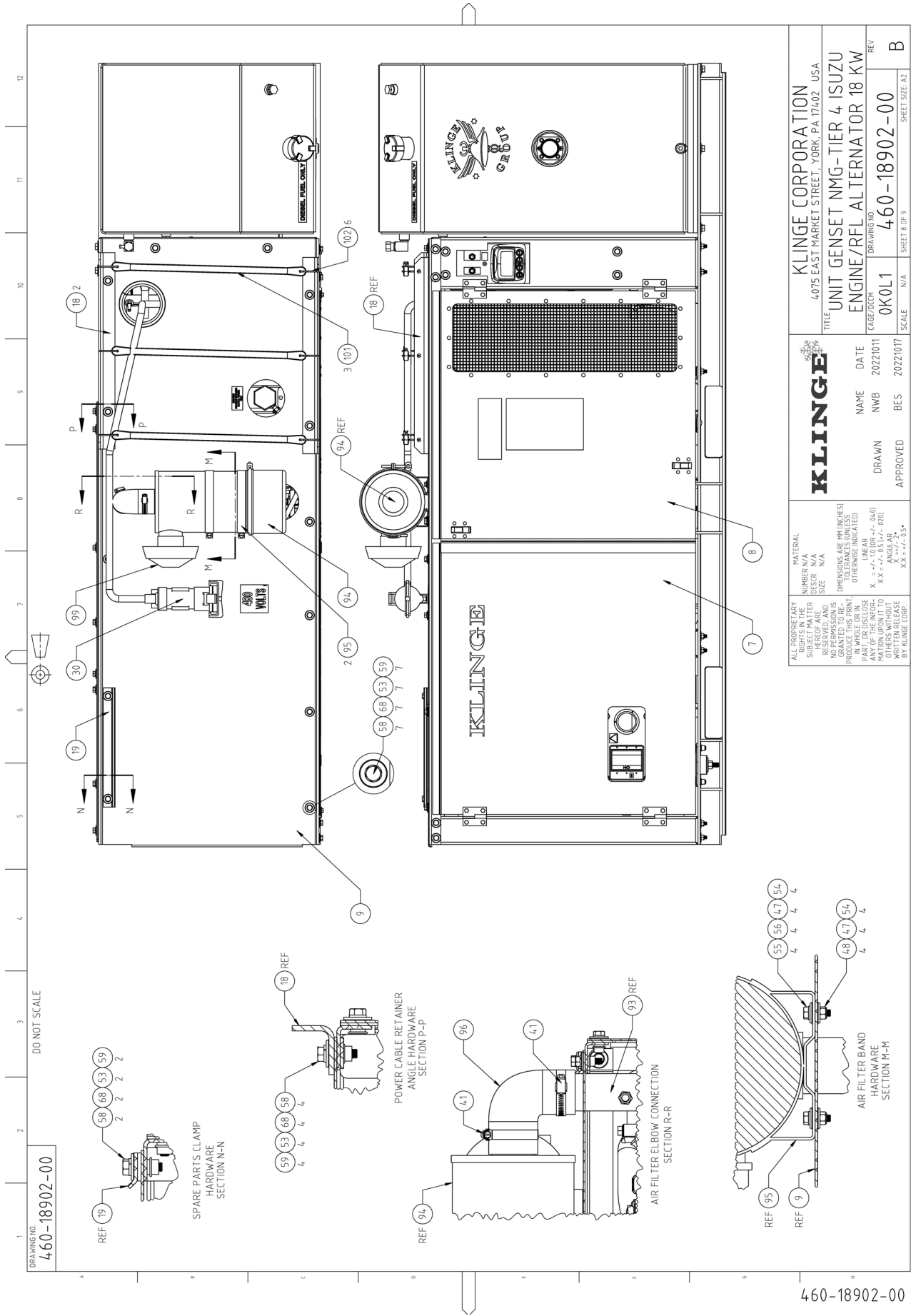
KLINGE	
MATERIAL NUMBERS IN THE PARENTS AND RESISTIVE AND DIMENSIONS ARE IN INCHES UNLESS OTHERWISE INDICATED	DATE 2022/01/11
LINEAR X .X X ± .05 I.P. 020 ANGULAR XX ± .5°	APPROVED BES
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE INDICATED. NO PERMISSION IS GRANTED TO REPRODUCE OR IN WHOLE OR IN PART FOR DISCLOSE TO OTHERS WITHOUT PERMISSION BY KLINGE CORP.	REAR VIEW



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460-18902-00

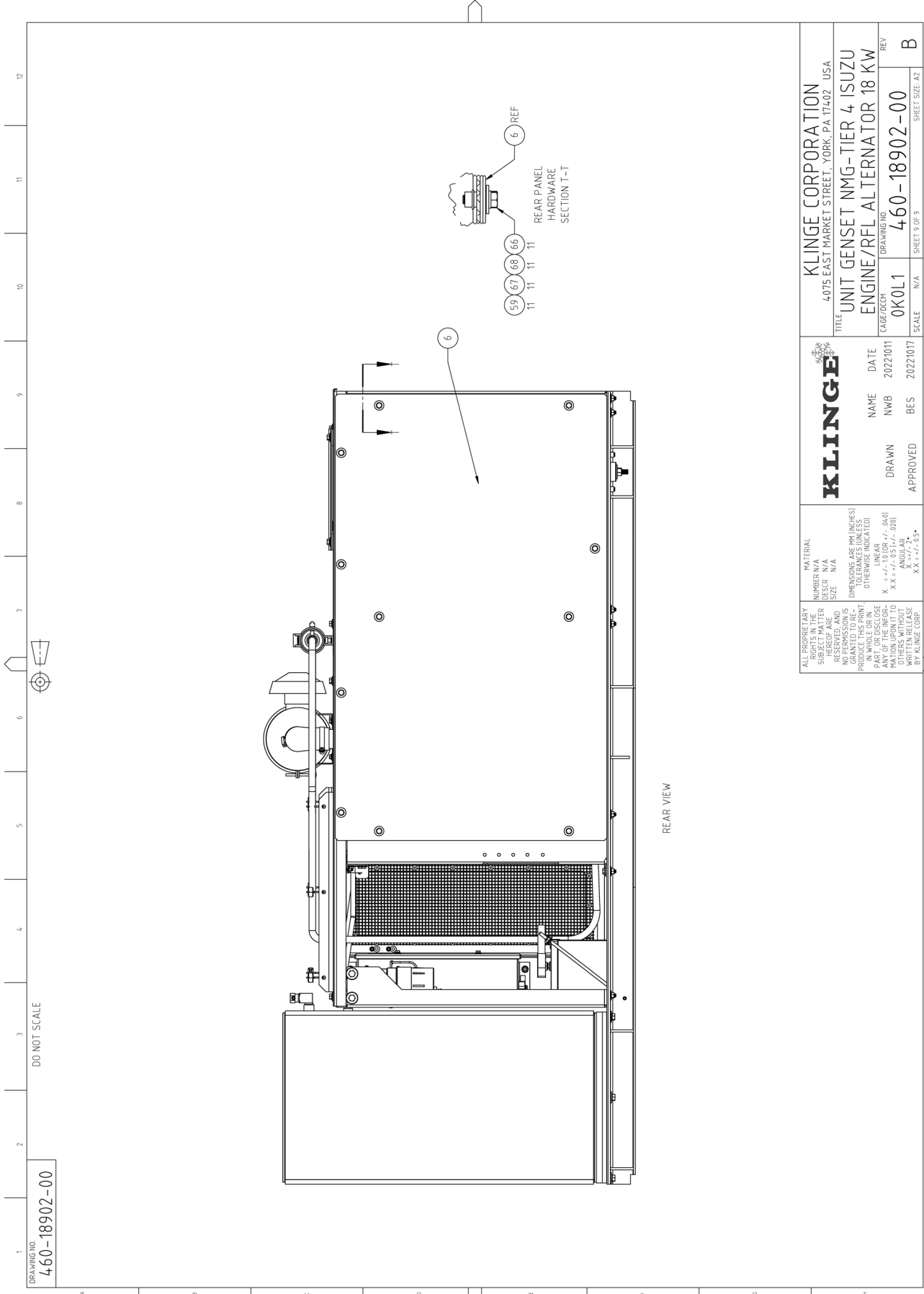




KLINGE		MATERIAL NUMBER / RESER / SIZE N/A	
UNPERMISSIONED DIMENSIONS ARE DIMENSIONS IN WHOLE OR IN PART OR DISCLOSED TO OTHERS WITHOUT THE WRITTEN PERMISSION OF KLINGE CORP.		DIMENSIONS ARE DIMENSIONS UNLESS OTHERWISE INDICATED	
LINEAR X.X = +/- 0.51 +/- 0.20		ANGULAR XX = +/- 0.5°	
NAME	DATE	DRAWN	APPROVED
NMB	20221011	BES	20221017
CAGE/DIRCH	0K0L1	SCALE	N/A
TITLE: KLINGE CORPORATION 4075 EAST MARKET STREET, YORK, PA 17402 USA		DRAWING NO. 460-18902-00	
UNIT GENSET NMG-TIER 4 ISUZU ENGINE/RFL ALTERNATOR 18 KW		SHEET SIZE: A2	
REV		B	

UNCONTROLLED WHEN PRINTED

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DO NOT SCALE

DRAWING NO.
460-18902-00

KLINGE CORPORATION 4075 EAST MARKET STREET, YORK, PA 17402 USA	
TITLE UNIT GENSET NMG-TIER 4 ISUZU ENGINE/RFL ALTERNATOR 18 KW	
CAGE/DCCH 0K0L1	DRAWING NO. 460-18902-00
SCALE N/A	SHEET SIZE: AZ B

DRAWN NMB	DATE 20221011
APPROVED BES	REV 0K0L1
MATERIAL NUMBER N/A DESCR N/A SIZE N/A DIMENSIONS ARE MM (INCHES) UNLESS OTHERWISE INDICATED LINEAR X = +/- .10 (OR +/- .040) R = +/- .015 (OR +/- .001) ANGULAR X = +/- .5° XX = +/- .25°	
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REAR VIEW

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DRAWING NO. 360-18892-00	DO NOT SCALE		12 11 10 9 8 7 6 5 4 3 2 1	CHANGE NO. 22-228 22-237	DRAWN / APPROVED RJK / BES RJK / BES
REV A B	DATE 10/11/2022 20221024	DESCRIPTION PLACE HOLDER LINE ADDED FOR ITEM 8 (ITEM 8 (GROUND STRAP) ADDED TO BOM ITEM 12. (ALTERNATOR) PART NUMBER CHANGED.			

ITEM NO	PART NO	DESCRIPTION	QTY
29	K26-25310-16	BOLT, HEX WITH WASHER, STAINLESS STEEL, M10 X 1.0 X 25	1
28	K26-25310-14	FITTING, BANJO, FUEL LINE, ISUZU	1
27	K26-25310-15	WASHER, FUEL LINE, SEALING, ISUZU	1
26	XB-302169	BRACKET, OIL DRAIN HOSE	1
25	K21-16681-30	SCREW CAP SOCKET ZINC-ALLOY M10 X 15 - 30	6
24	XB-9927149	WASHER, FLAT, ZINC PLATED, M8	8
23	XB-9926559-16	SCREW, HEX, CAP SOCKET, BLACK OXIDE, M8 X 16	8
22	K21-50224-20	SCREW HEX SS M6 X 1 X 20 FULL, THD	4
21	K21-50226-25	SCREW HEX SS M10 X 1.5 X 25 18-8 933 FULL THREAD	3
20	K21-50401-06	WASHER FLAT SS M6 6.4 X 12 X 1.4--18 18 DIN 125	4
19	K21-50401-10	WASHER FLAT SS M10 10.5 X 20 X 2 18-8 DIN 125	19
18	K21-50421-10	WASHER, LOCK, SPRING, STAINLESS STEEL, M10 X 18.4 X 2.5	19
17	XB-992610-30	BOLT, HEX, ZINC PLATED, M10 X 30 MM	8
16	XB-999094	CAP, BOTTLE, RADIATOR OVERFLOW	1
15	XB-999093	BOTTLE, COOLANT, OVERFLOW	1
14	XB-152043	DECAL, "50/50 ETHYLENE GLYCOL / WATER"	1
13	360-14381-00	SUPPORT, OVERFLOW BOTTLE, NMG	1
12	360-18951-00	ALTERNATOR RFL-30 MODIFIED WITH BREAKER BOX	1
11	360-14518-02	HOSE ASSEMBLY OIL DRAIN ISUZU	1
10	K23-13332-07	FITTING, 90 DEGREE, CARBON STEEL, 7/8 INCH	1
9	XB-998200	FAN, COOLING, SUCTION, PLASTIC, 6 BLADE, ISUZU	1
8	K25-26621-08	STRAP GROUND 8" LG 3/8" MOUNTING HOLE	1
7	360-18868-01	MOUNT ENGINE RIGHT TIER 4 PAINTED	1
6	360-18867-01	MOUNT ENGINE LEFT TIER 4 PAINTED	1
5	K21-16218-00	CLAMP, HOSE, STAINLESS STEEL, 0.375 - 0.875 INCH	4
4	K28-11150-00	FITTING 3/8 HOSE BARBED TEE CONNECTOR	1
3	K28-10804-06	HOSE, RUBBER, 3/8 INCH ID, PUSH LOCK	18
2	K28-10804-04	HOSE, RUBBER, 1/4 INCH ID, PUSH LOCK	0.75
1	K26-25310-00	ENGINE, ISUZU, 4LE1TAGV-07 (MODIFIED)	1

KLINGE

KLINGE CORPORATION
4075 EAST MARKET STREET, YORK, PA 17402 USA

ENGINE ALTERNATOR
ASSEMBLY TIER 4

DRAWING NO. 360-18892-00

CAGE/DCCH 0K0L1

SCALE N/A

SHEET TOP-T

NAME DATE
AUV 20220429

DRAWN AUV 20220429

APPROVED BES 20220919

REVISIONS

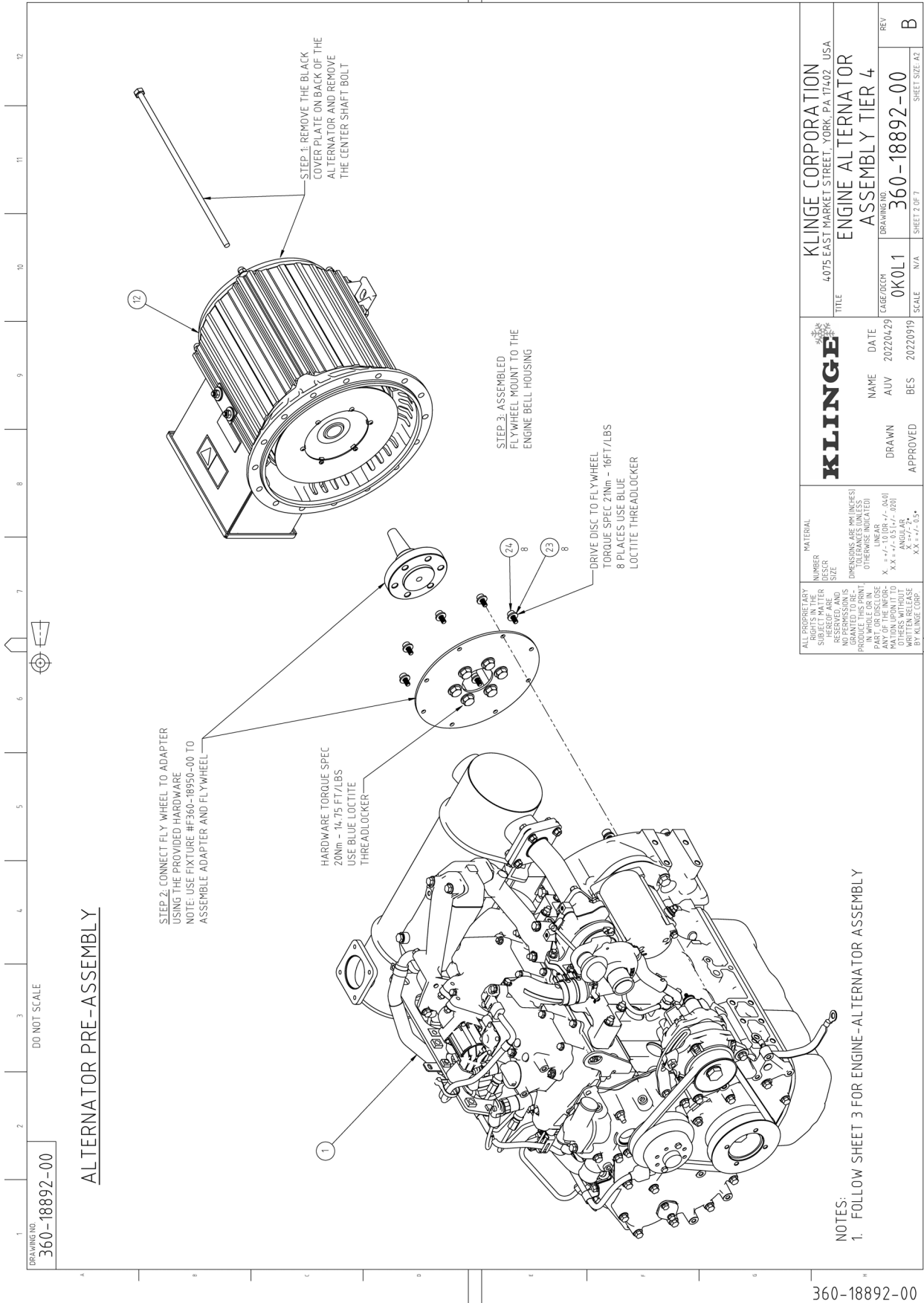
REV B

SHEET SIZE A2

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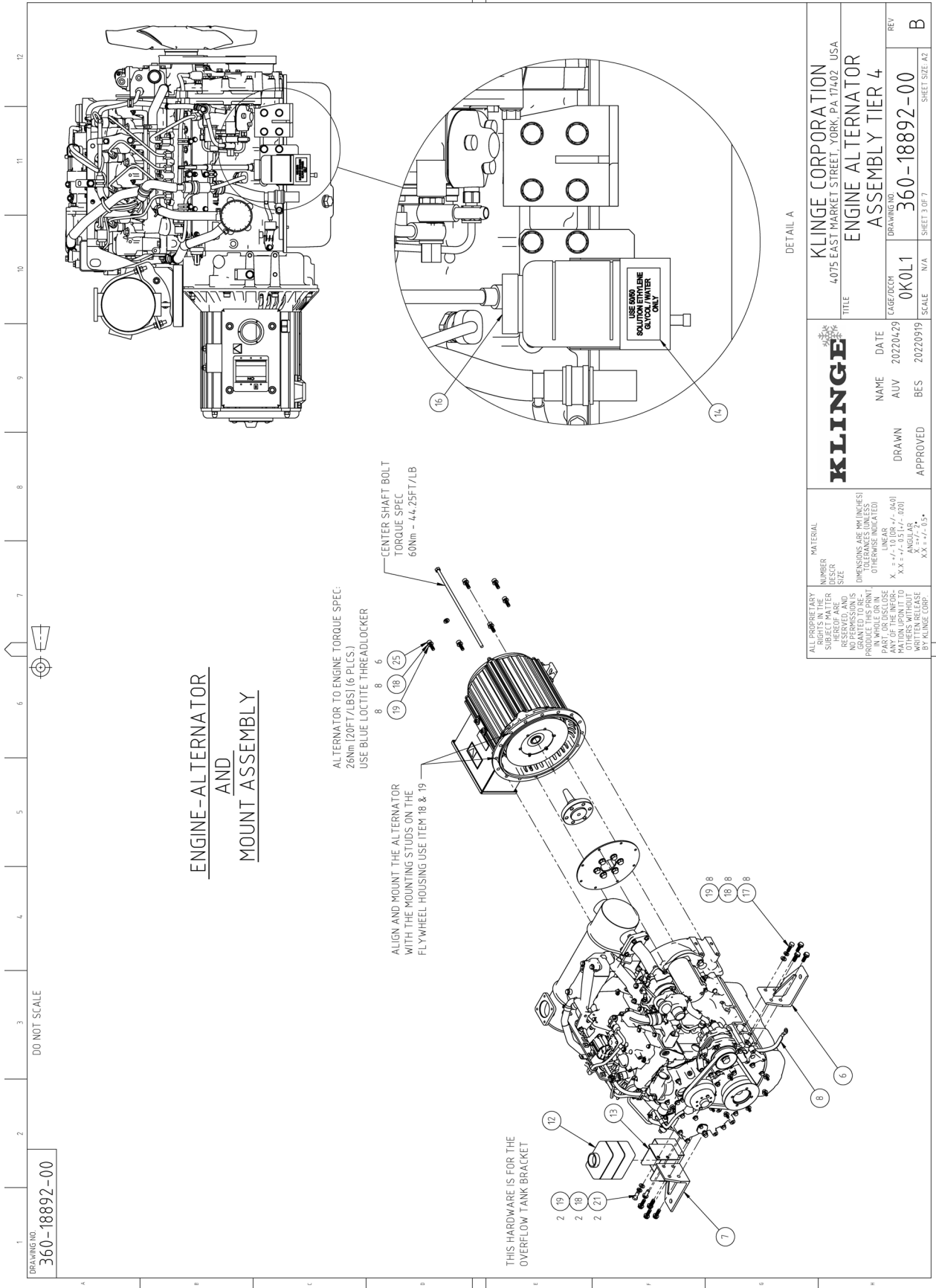
MATERIAL NUMBER DESCR SIZE
DIMENSIONS ARE MM (INCHES)
X = +/- .10 (OR +/- .040)
XX = +/- .05 (OR +/- .020)
XXX = +/- .02

NOTES:
1. USE ANTI-SEIZE KLINGE P/N K13-02069-00 ON ALL STAINLESS STEEL FASTENERS



KLINGE		KLINGE CORPORATION 4075 EAST MARKET STREET, YORK, PA 17402 USA	
TITLE		ENGINE ALTERNATOR ASSEMBLY TIER 4	
DATE	20220429	DRAWING NO.	360-18892-00
NAME	AUV	SCALE	N/A
DRAWN	BES	SHEET 2 OF 7	B
APPROVED			

ALL PROPRIETARY INFORMATION IS RESERVED HEREIN. NO PERMISSION IS GRANTED TO REPRODUCE OR TRANSMIT IN WHOLE OR IN PART, OR DISCLOSE TO OTHERS WITHOUT THE WRITTEN PERMISSION OF KLINGE CORP.	MATERIAL NUMBER: 24 8 23 8	DIMENSIONS ARE IN INCHES UNLESS OTHERWISE INDICATED LINEAR: X.X - +/- 0.01 / -0.01 ANGULAR: XX - +/- 0.5°
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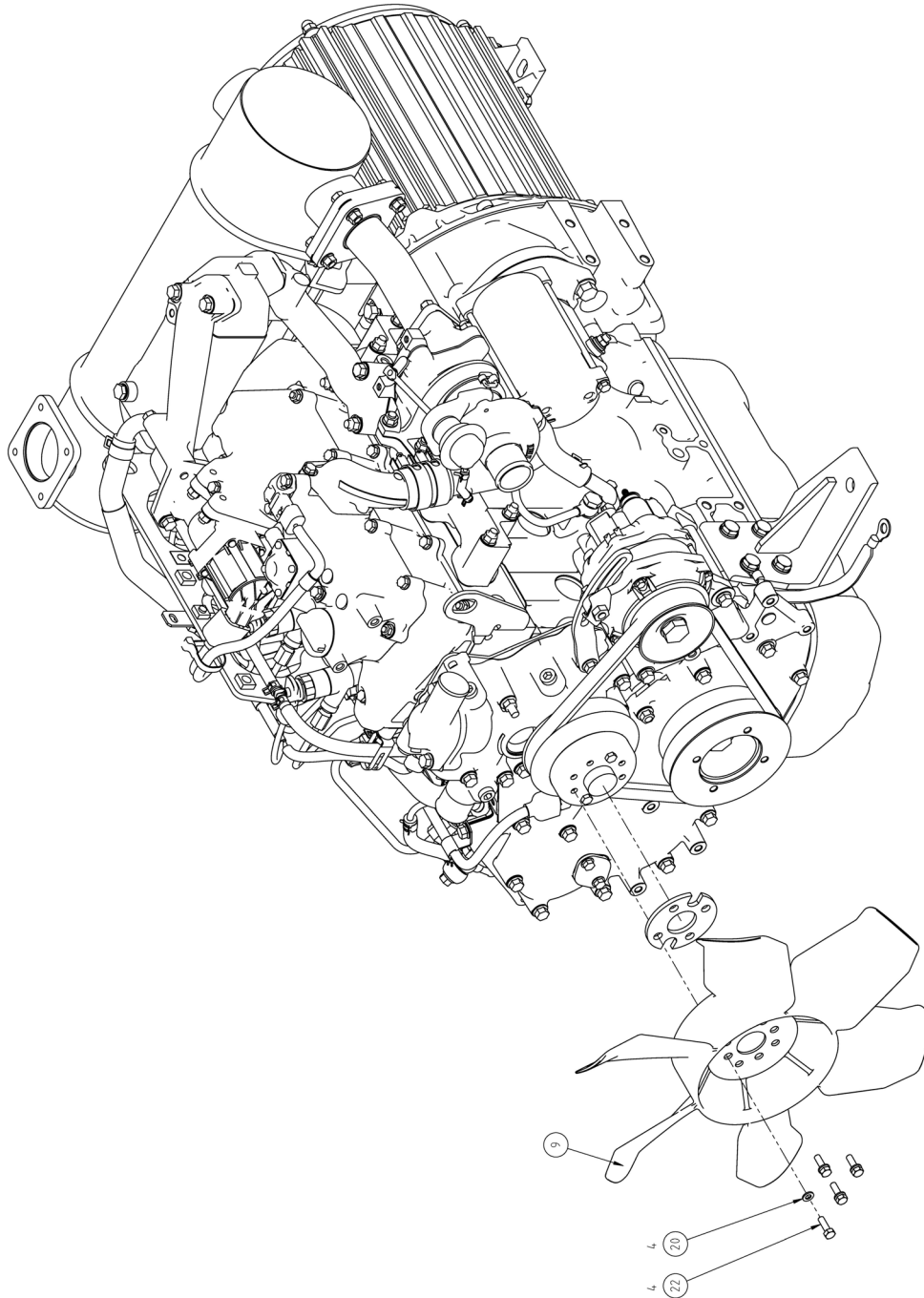


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12
11
10
9
8
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3
2
1

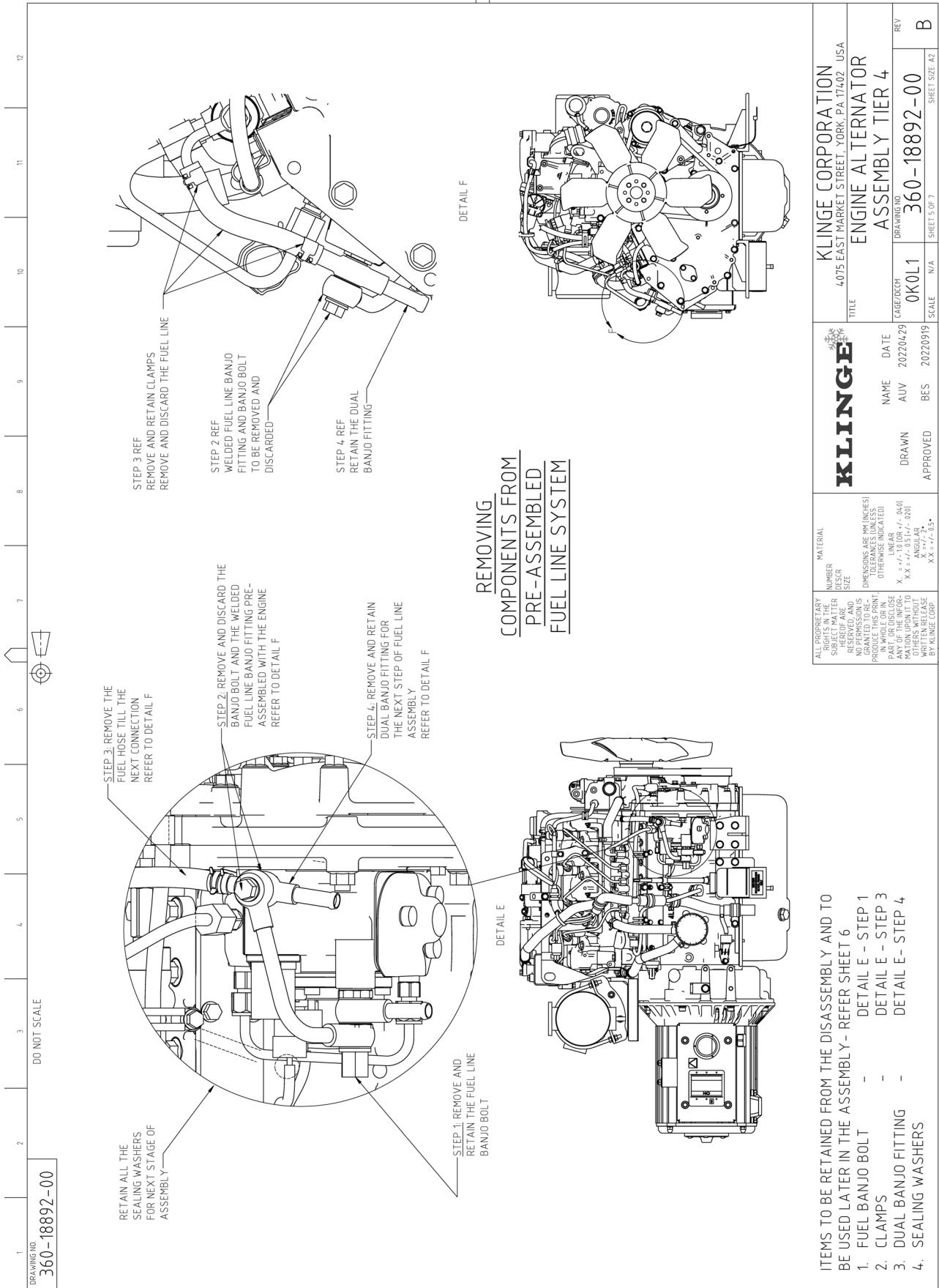
DO NOT SCALE

DRAWING NO.
360-18892-00



KLINGER <small>ALL PROPRIETARY NUMBER SUBJECT MATTER HEREON ARE RESERVED. NO PERMISSION IS GRANTED TO REPRODUCE OR TRANSMIT IN WHOLE OR IN PART, OR DISCLOSE ANY INFORMATION HEREON TO ANY OTHER PERSONS WITHOUT WRITTEN RELEASE BY KLINGER CORP.</small>	MATERIAL NUMBER SIZE DIMENSIONS ARE IN (INCHES) UNLESS OTHERWISE INDICATED LINEAR X, Y, Z, Ø, R, S, T, RADIUS ANGULAR X, Y, Z, R, S, T	KLINGER CORPORATION 4075 EAST MARKET STREET, YORK, PA 17402 USA ENGINE ALTERNATOR ASSEMBLY TIER 4	TITLE CASE/ARCH DRAWING NO. SCALE SHEET SIZE: A2
	NAME DATE DRAWN APPROVED	AUV 20220429 AUU 20220919	0K0L1 360-18892-00 N/A

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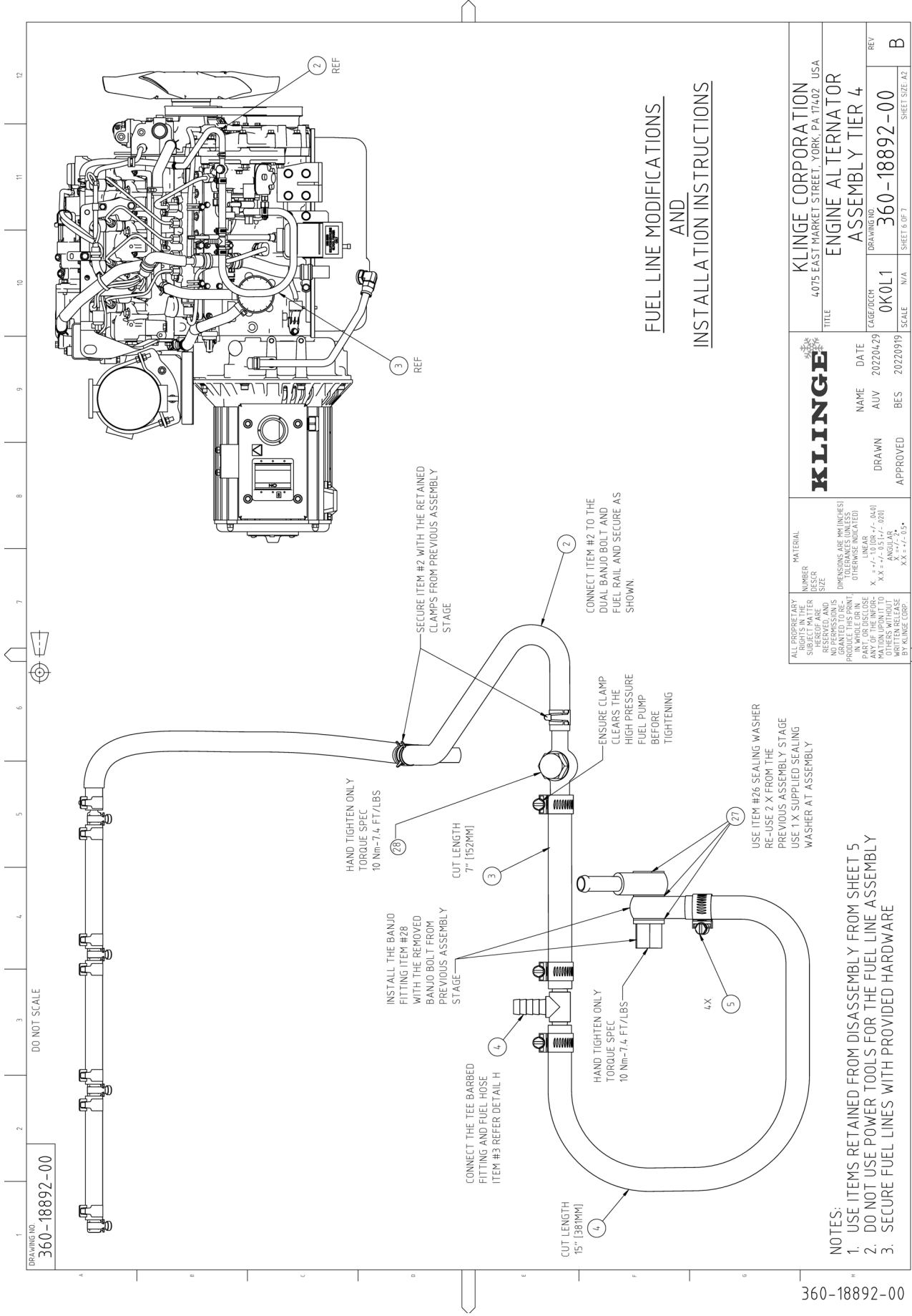
DRAWING NO.
360-18892-00

- ITEMS TO BE RETAINED FROM THE DISASSEMBLY AND TO BE USED LATER IN THE ASSEMBLY - REFER SHEET 6
- 1. FUEL BANJO BOLT -
 - 2. CLAMPS -
 - 3. DUAL BANJO FITTING -
 - 4. SEALING WASHERS -

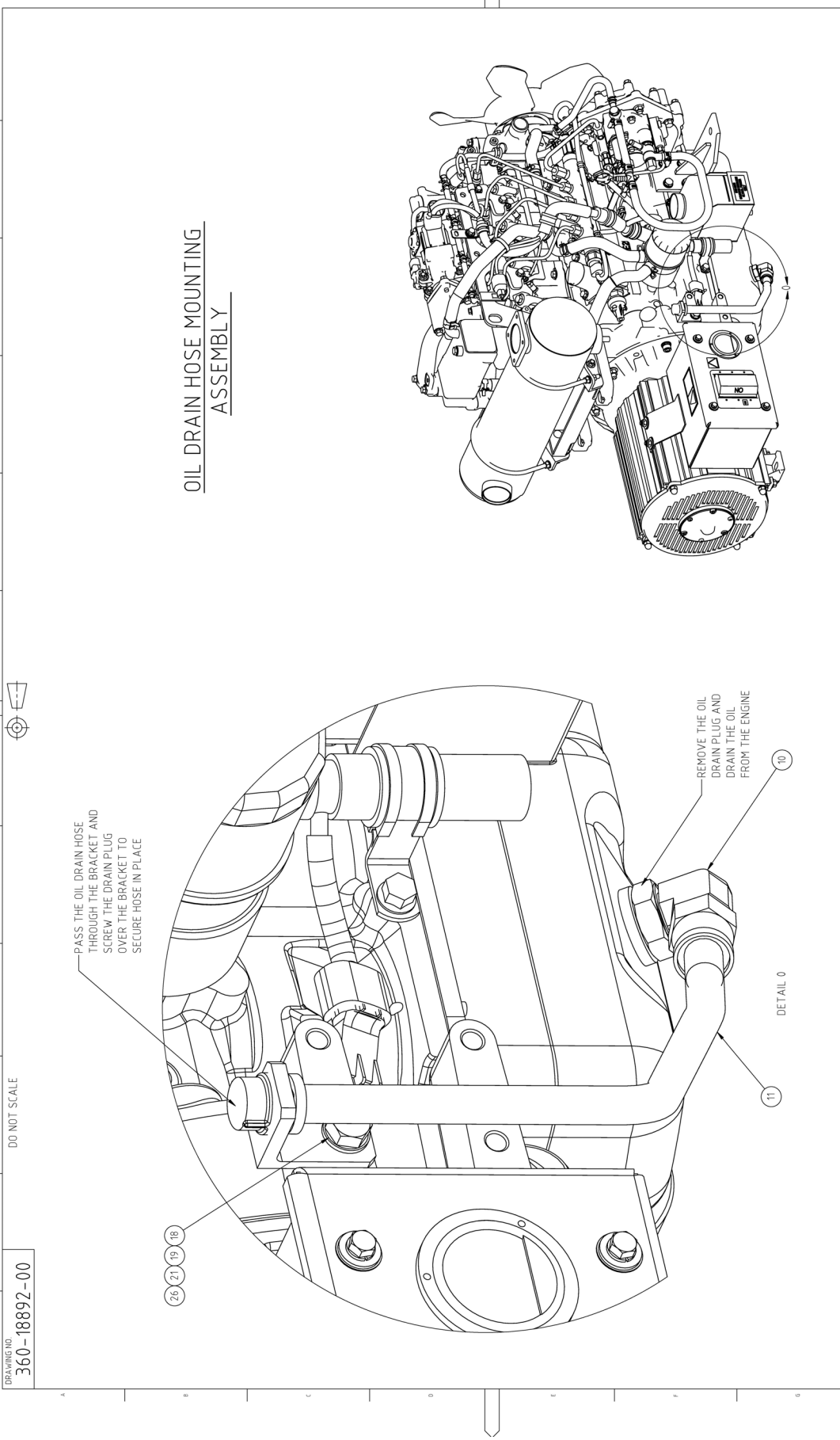
360-18892-00

		KLINGDE CORPORATION 4075 EAST MARKET STREET, YORK, PA 17402 USA	
TITLE ENGINE ALTERNATOR ASSEMBLY TIER 4		DRAWING NO. 360-18892-00	
NAME AUV	DATE 20220429	CAGE/DCCH 0K0L1	REV B
DRAWN APPROVED	BES 20220919	SCALE N/A	SHEET SIZE A2
ALL PROPRIETARY SUBJECT MATTER RESERVED AND NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION BY KLINGDE CORP.		MATERIAL NUMBER DESCR SIZE DIMENSIONS ARE MM (INCHES) X = +/- .10 (OR +/- .040) Y = +/- .10 (OR +/- .040) Z = +/- .10 (OR +/- .040) XX = +/- .15 (OR +/- .060) XXX = +/- .25	

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12 11 10 9 8 7 6 5 4 3 2 1



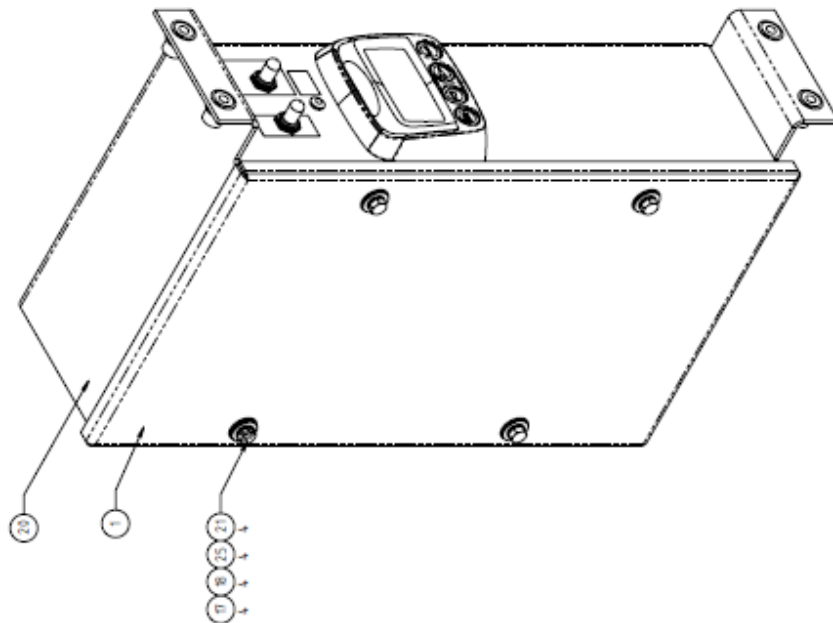
OIL DRAIN HOSE MOUNTING
ASSEMBLY

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		NAME DATE ALIV 20220429	DRAWN APPROVED BES 20220919
		SCALE N/A	SHEET SIZE A2

UNCONTROLLED IF PRINTED

DRAWING
360-18922-00

DO NOT SCALE



REV	DATE	DESCRIPTION	CHANGE NO	DRAWN	APPROVED
A	2022102	CHANGE ITEM 11 FROM K21-5685-06 TO K21-1819-06. ADD ITEM 31 (K28-10795-00). ADD NOTES ON THE PARTS THAT COME WITH ENGINE.	22-255	LAH	BES
B	2022104	ADD ITEM 32 AND CHANGE SIZE OF HARD FOR BAP SENSOR. CHANGED VIEWS OF MODELS. CHANGES IN NOTES.	22-260	LAH	BES
C	20221228	BALLOON 11 WAS 22 SECTION B-B SHEET 2. ADD ITEM H33 SHEET 2. ROTATED RELAY SOCKET 180° SHEET 2	22-301	DBG	BES

ITEM NO	PART NO	DESCRIPTION	QTY
33	360-18919-00	CABLE BATTERY CHARGER DISCONNECT WITH PLUG	1
32	K21-50421-05	WASHER, LOCK, SPRING, STAINLESS STEEL, M6 X 9.2 X 12	2
31	K28-10795-00	RING, O EPDM, 25 ID X 375.00 X .06 W	1
30	360-18911-00	WIRING CONTROL	1
29	360-18914-00	HARNES CONTROL	1
28	K21-18333-06	NUT LOCK, SS M6 X NYLON INSERT	2
27	K21-50103-06	NUT HEX M6 THIN 18-8 SS	1
26	K21-50221A-0	SCREW HEX SS M6 X 1 X 8	2
25	K21-50421-06	WASHER, LOCK, SPRING, STAINLESS STEEL, M6 X 12.2 X 15	5
24	K21-50421-05	WASHER, FLAT, STAINLESS STEEL, M6 X 10 X 1	2
23	K21-16400-06	SCR PAN SS M5X0.8X25MM RULLY THREADED 18-8	2
22	360-18935-00	HARNES ENGINE NMG TIER 4	1
21	K21-50224-25	SCREW, HEX, STAINLESS STEEL, FULL THREAD, M6 X 100 X 25	4
20	360-18921-01	BOX CONTROL ENCLOSURE ASSY PAINTED NMG TIER 4	1
19	K21-18425-04	WASH FLAT SS BONDED NEOP 1/4 0.275 ID 625.00	2
18	K21-18511-06	WASHER, FLAT, STAINLESS STEEL, M6 X 18 X 16	1
17	K21-18510-06	WASHER INSULATED PVC M6	1
16	K21-18470-16	SCREW FLAT HEAD PHILIPS SS M6-1 X 16	4
15	060-18933-01	MOUNT BRACKET RIGHT ECM PAINTED	1
14	060-18932-01	MOUNT BRACKET LEFT ECM PAINTED	1
13	K26-25310-13	POWERVIEW GENERATOR DISPLAY - ALE27 ADV	1
12	K18-06104-00	LABEL RPM	1
11	K35-06745-00	LABEL START/ON/OFF	1
10	K35-06746-00	LABEL PRIGHEAT	1
9	360-18958-00	LED RED W7 FERRULE	1
8	K24-22416-00	SWITCH SPST 12V 20A ON / OFF SCREW TERMINAL	1
7	K24-17239-00	BOOT TOGGLE SWITCH	2
6	K24-22556-00	SWITCH TOGGLE 3 POS OFF-ON-MOM	1
5	K25-26141-01	RING SEAL PLASTIC 1/2	1
4	K25-26340-02	NUT LOCK PLASTIC 1/2	1
3	K25-26229-03	CONNECTOR STRAIGHT PLASTIC SHORT 1/2	1
2	XB-1993010-20	RUBBER NEOPRENE 1/4 X 2 X 12" DUROMETER 70	1
1	360-18918-00	DOOR ASSEMBLY CONTROL BOX NMG TIER 4	1

KLINGE
 14715 EAST MARKET STREET, YORK, PA 17402 USA
 TITLE: BOX CONTROL WHITE

DATE: 2022102
 NAME: AUV
 DRAWN: BES
 APPROVED: BES

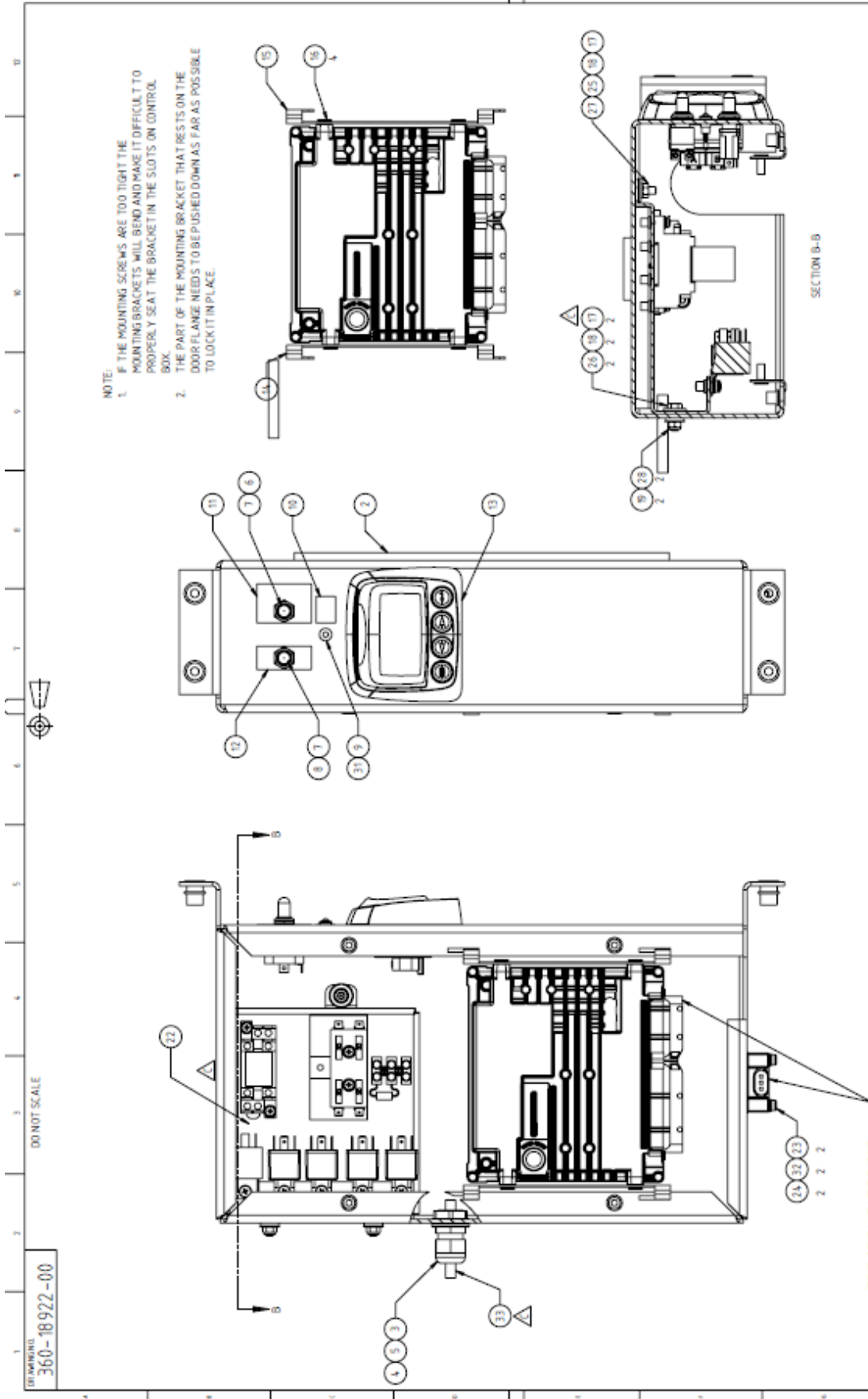
SCALE: 1:1
 SHEET 1 OF 3
 DRAWING NO: 360-18922-00
 SHEET NO: A2
 REV: C

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED. DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

- NOTES:
1. USE ANTI-SIZE KLINGE P/N K13-02069-00 ON ALL STAINLESS STEEL FASTENERS.
 2. ITEM 29 AND 30 NOT SHOWN IN DRAWING.

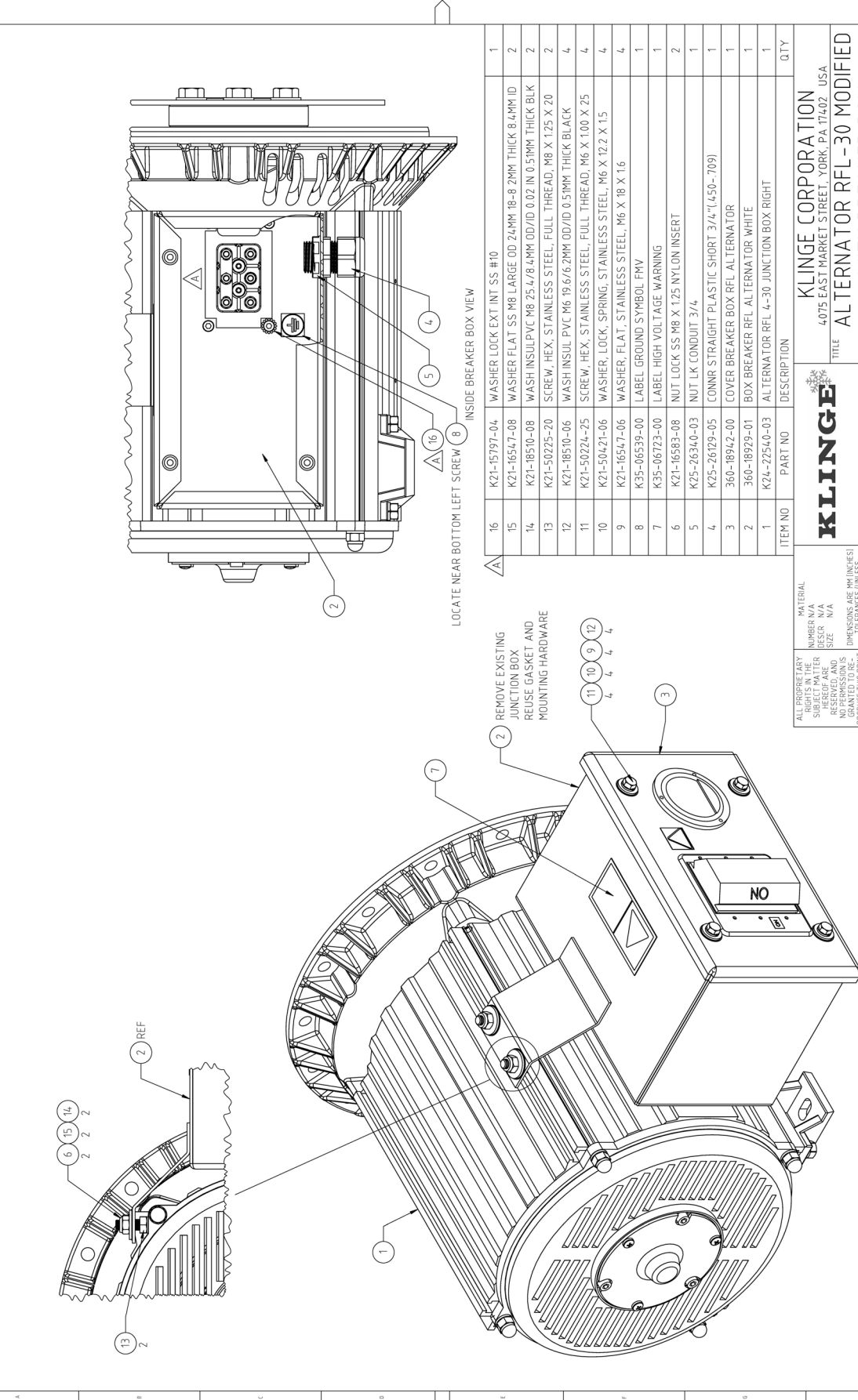
UNCONTROLLED IF PRINTED

360-18922-00



KLINGE <small>ALL DIMENSIONS IN INCHES UNLESS OTHERWISE INDICATED DIMENSIONS ARE IN BRACKETS UNLESS OTHERWISE INDICATED X .001 - 10.000 - 0.001 XX .001 - .010 - 0.001 ANGLE XX - .1 - .4 - 0.1</small>	KLINGE CORPORATION 4975 EAST MARKET STREET, YORK, PA 17402, USA	TITLE BOX CONTROL WHITE	DRAWING NO. 360-18922-00	REV C
	NAME AUV	DATE 20220720	DRAWN BES	CHECKED N/A
APPROVED BES	DATE 20220808	SCALE N/A	SHEET 2 OF 2	SHEET SIZE A1

1	2	3	4	5	6	7	8	9	10	11	12
DRAWING NO 360-18951-00		DO NOT SCALE		REV DATE		DESCRIPTION		CHANGE NO/DRAWN APPROVED			
				A 20221219		MOVED JUMPERS TO UPPER SIDE OF TERMINAL BLOCK, ADDED ITEM #16		22-310		DBG BES	



ITEM NO	PART NO	DESCRIPTION	QTY
16	K21-15797-04	WASHER LOCK EXT INT SS #10	1
15	K21-16547-08	WASHER FLAT SS M8 LARGE OD 24MM 18-8 2MM THICK 8.4MM ID	2
14	K21-18510-08	WASH INSUL PVC M8 25.4/8.4MM OD/ID 0.02 IN 0.51MM THICK BLK	2
13	K21-50225-20	SCREW, HEX, STAINLESS STEEL, FULL THREAD, M8 X 1.25 X 20	2
12	K21-18510-06	WASH INSUL PVC M6 19.6/6.2MM OD/ID 0.51MM THICK BLACK	4
11	K21-50224-25	SCREW, HEX, STAINLESS STEEL, FULL THREAD, M6 X 1.00 X 25	4
10	K21-50421-06	WASHER, LOCK, SPRING, STAINLESS STEEL, M6 X 12.2 X 15	4
9	K21-16547-06	WASHER, FLAT, STAINLESS STEEL, M6 X 18 X 16	4
8	K35-06539-00	LABEL GROUND SYMBOL FMV	1
7	K35-06723-00	LABEL HIGH VOLTAGE WARNING	1
6	K21-16583-08	NUT LOCK SS M8 X 1.25 NYLON INSERT	2
5	K25-26340-03	NUT LK CONDUIT 3/4"	1
4	K25-26229-05	CONN'R STRAIGHT PLASTIC SHORT 3/4" (L50-709)	1
3	360-18942-00	COVER BREAKER BOX RFL ALTERNATOR	1
2	360-18929-01	BOX BREAKER RFL ALTERNATOR WHITE	1
1	K24-22540-03	ALTERNATOR RFL 4-30 JUNCTION BOX RIGHT	1

KLINGE
 4075 EAST MARKET STREET, YORK, PA 17402 USA
ALTERNATOR RFL-30 MODIFIED WITH BREAKER BOX
 DRAWING NO. 360-18951-00
 SCALE N/A SHEET 1 OF 1

MATERIAL NUMBER N/A	DATE	REV
DESIGN N/A	20221020	A
SIZE N/A		
DIMENSIONS (IF APPLICABLE) TOLERANCES (UNLESS OTHERWISE INDICATED)		
LINEAR X = +/- .01 / - .020		
ANGULAR XX = +/- .5°		
OTHERWISE INDICATED		
PAY FOR UNCLOSE		
OTHERS WITHOUT		
BY KLINGE CORP.		

NOTES:
 1. USE ANTI-SEIZE KLINGE P/N K13-02069-00 ON ALL STAINLESS STEEL FASTENERS

UNCONTROLLED IF PRINTED