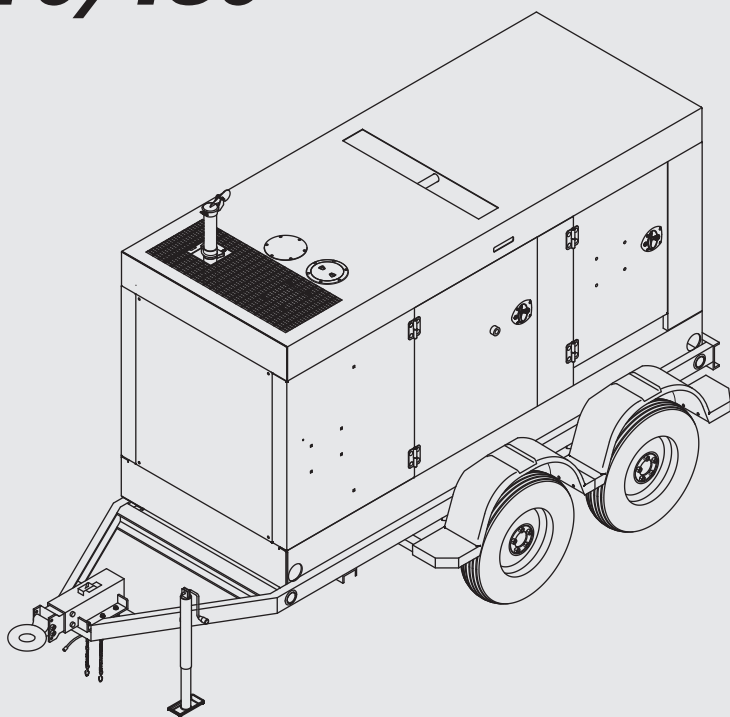




TEREX®

Operator/Service & Parts Manual

T70/T80



First Edition

Rev A1

Part No. 833015

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⚠ WARNING

The operator must read and understand all the instructions in this manual before operating the machine.

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SERIAL NUMBER REGISTRATION

TEREX Model Number _____

Engine Model Number _____

Generator Model Number _____

Owner: _____

Options: _____

Serial Number _____

Serial Number _____

Serial Number _____

Ship to: _____

This Operation and Service Manual contains information specifically pertaining to the operation and maintenance of the TEREX Super Quiet Generators. We suggest that you read this manual carefully prior to operating the generator. This manual should be retained and referred to for operation, maintenance and ordering parts. When ordering parts, **PLEASE INCLUDE THE MODEL AND SERIAL NUMBER** located on the nameplate of the generator. For major repair and service or other information, contact your TEREX dealer, or call or write to:

**TEREX****P.O. Box 3147 (29732)****590 Huey Road****Rock Hill, SC 29730****Telephone: (800) 433-3026****FAX: (803) 366-1101**

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INTRODUCTION

Owners, Users, and Operators:

TEREX appreciates your choice of our product for your application. Our number one priority is user safety which is best achieved by our joint efforts. We feel that you can make a major contribution to safety if you as the equipment users and operators:

- **Comply** with OSHA, Federal, State, and Local Regulations.
- **Read, Understand, and Follow** the instructions in this and other manuals supplied with this product.
- **Use Good, Safe Work Practices** in a common sense way.
- **Only have trained operators** — directed by informed and knowledgeable supervision — operating this product.

If there is anything in this manual that is not clear or which you believe should be added, please send your comments to TEREX Service Department in Rock Hill, SC.



THE SAFETY ALERT SYMBOL IS USED TO ALERT YOU TO POTENTIAL PERSONAL INJURY HAZARDS. OBEY ALL SAFETY MESSAGES THAT FOLLOW THIS SYMBOL TO AVOID POSSIBLE INJURY OR DEATH.

DESCRIPTION OF EQUIPMENT

The engine/generator assembly consists of a diesel engine combined with an electrical generator. This assembly is firmly bolted together to form an integral unit and does not require anything other than routine maintenance.

The engine is equipped with a 12-volt starter and can be wired for remote starting capability at the control panel.

A dry-element air cleaner is standard equipment to ensure a clean air supply, and a remote fuel/water separator is included for additional fuel system protection.

A governor on the engine provides a stable operating speed under varying load conditions, and the generator is equipped with a solid-state voltage regulator to stabilize the output voltage under these same conditions. Figures and schematics of both the governor and regulator are provided in the **ENGINE** and **GENERATOR OPERATOR'S MANUALS**.

An automatic shutdown system is incorporated in the generator set to sense low oil pressure and/or high coolant temperature, and in either case the engine/generator assembly will automatically cease operation.

A diesel fuel tank is incorporated within the base of the unit to ensure an uninterrupted operating cycle under full load. The engine/generator assembly is mounted to the base using high durometer vibration isolators.

The enclosure for the generator set is constructed from 12 or 14-gauge sheet metal to ensure maximum rigidity, and is bolted together to allow easy access to major components if necessary. Four lockable, hinged access doors are provided for routine operation and maintenance.

The enclosure on the Super Quiet Generator is specifically designed for a high degree of sound attenuation. This allows the generator set to be operated in noise-sensitive environments. The interior of the enclosure is coated with sound-dampening polymer foam that is highly effective in noise suppression.

A high ambient temperature radiator and a critical grade exhaust silencer are contained within the enclosure as standard equipment.

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DESCRIPTION OF EQUIPMENT (Cont.)

A center-point lifting attachment is located in the top of the enclosure to allow crane lifting of the entire unit.

The generator set is mounted on a trailer equipped for highway operation. Hydraulic surge brakes are standard on larger generator sets for maximum stopping efficiency. Electric brakes are also available as an option.

GENERAL SAFETY

HAZARD CLASSIFICATION

A multi-tier hazard classification system is used to communicate potential personal injury hazards. The following signal words used with the safety alert symbol indicate a specific level of severity of the potential hazard. Signal words used without the safety alert symbol relate to property damage and protection only. All are used as attention-getting devices throughout this manual as well as on decals and labels fixed to the machinery to assist in potential hazard recognition and prevention.

DANGER

Red - Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Orange - Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Yellow with safety alert symbol - Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

Yellow without safety alert symbol - Indicates a situation which, if not avoided, may result in property or equipment damage.

NOTICE

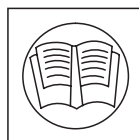
Green - Indicates important installation, operation or maintenance information.



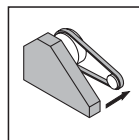
Hazardous voltage. Will cause serious injury or death.



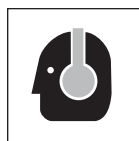
Hot exhaust. Can contain carbon monoxide. Will cause serious injury or death.



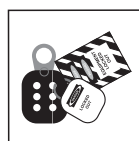
Read all manuals that shipped with your equipment. Maintenance is done more easily and safely when you know what you're doing.



Keep all guards in place.



Wear hearing protection when you are near this equipment.

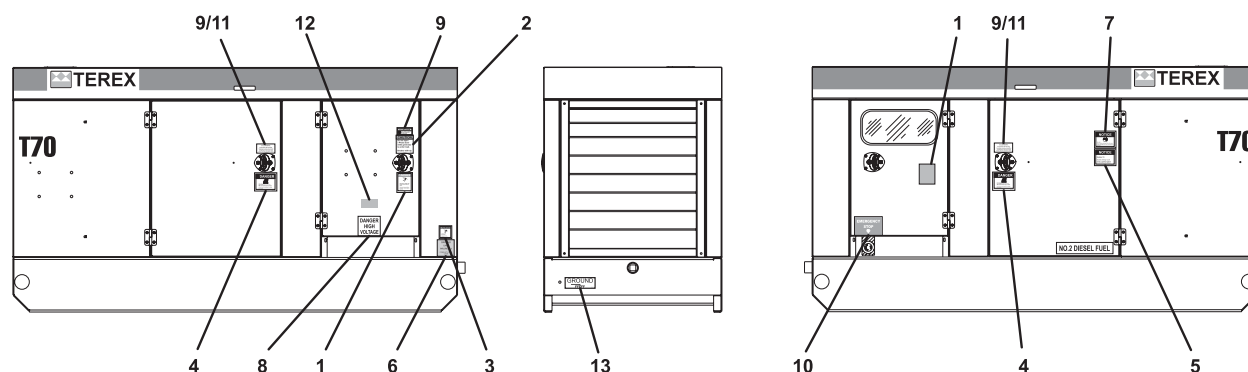


Lockout and Tagout. Equipment may be energized. Lockout and tagout all energy sources prior to performing maintenance adjustments.

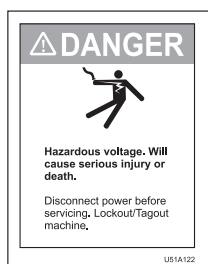
REV A

GENERAL SAFETY (Cont.)

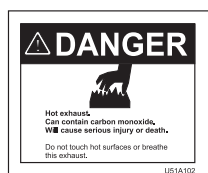
SAFETY SIGN LOCATIONS



 Items shaded are hidden from view.



1



4



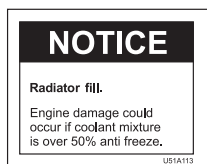
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10



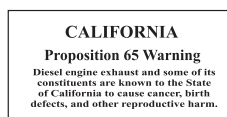
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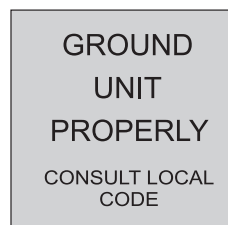
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3



6



9



12



13

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GENERAL SAFETY (Cont.)

ACCIDENT PREVENTION



Use protective clothing and safety equipment. Always wear approved safety equipment such as gloves, safety boots, safety hard hat, goggles, ear protection, and dust masks when necessary. Wear protective clothing that is snug and belted where required.

UNAUTHORIZED WELDING

UNAUTHORIZED WELDING CAN CAUSE STRUCTURAL FAILURE OR PERSONAL INJURY.

DO NOT weld on any structural member.



Any unauthorized welding or repair procedure will void the warranty.

FUELING

ALWAYS handle fuel with care. It is highly flammable.

ALWAYS stop engine before refueling. Fill fuel tank outdoors.

DO NOT replace fuel lines with materials different from those supplied as original equipment.

FIRES CAN CAUSE SEVERE PERSONAL INJURY OR MACHINE DAMAGE.

Prevent fires by keeping the generator and its surrounding area clean.

DO NOT refuel while smoking or when near open flame or sparks.

DO NOT refuel the engine when it is hot. Allow to cool for several minutes before refueling.

DO NOT spill fuel inside the engine compartment. If fuel has leaked, wipe it up and have leak repaired before next use.

ALWAYS have a fire extinguisher nearby. Be sure the extinguisher is properly maintained and be familiar with its use. Extinguishers rated ABC by the NFPA are appropriate for all applications.

EXHAUST GASES ARE TOXIC. DO NOT USE INDOORS UNLESS PROPERLY VENTILATED OR AN EXHAUST SCRUBBER IS USED.

Check exhaust system regularly for leaks and ensure that the exhaust manifolds are secure and not warped. Make sure the unit is well ventilated.

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GENERAL SAFETY (Cont.)**ELECTRICAL SAFETY**

THIS EQUIPMENT USES HIGH VOLTAGE CIRCUITS CAPABLE OF CAUSING SERIOUS INJURY OR DEATH. EXERCISE EXTREME CAUTION AROUND ANY ELECTRICAL COMPONENT WHILE OPERATING THIS UNIT.

Always ground the unit according to local codes. A grounding lug is provided for your convenience.

Beware of cut or damaged power cords. Have a qualified electrician replace any damaged cords immediately.

DO NOT TOUCH HOT PARTS.

The exhaust manifold and tail pipe are very hot. Parts of the engine are also hot. Use protective gloves when handling hot parts.

**BATTERY HAZARDS**

LEAD ACID BATTERIES CAN BE DANGEROUS. THE SULFURIC ACID IN THE BATTERY CAN CAUSE SEVERE SKIN AND EYE BURNS. THE HYDROGEN GAS EMITTED DURING CHARGING CAN EXPLODE IF AN ARC OR FLAME IS PRESENT.

DO NOT smoke while servicing the battery.

DO NOT allow tools to touch battery terminals and create an arc.

Disconnect the negative terminal of the battery when working on the engine or other parts to prevent accidental arcing. Disconnect the negative cable at the end away from the battery.

DO NOT remove the vent caps when charging the battery.

Always wear eye protection when servicing the battery.

If acid gets on skin or eyes, immediately flush under running water and obtain medical attention.

KEEP ALL BODY PARTS AND CLOTHING AWAY FROM MOVING PARTS.

Loose jackets, shirts, sleeves, jewelry and especially neckties should not be worn while working on or running the unit.

Only remove guards or protective devices from unit temporarily to gain access for maintenance. Always replace guards immediately after servicing. Never remove guards while unit is operating.

Keep your hands away from moving parts, particularly clear of the radiator fan and alternator belts when the engine is running.

**BEWARE OF TRAFFIC HAZARDS**

Stand clear of traffic when starting or checking the unit along the road.

Check the fuel tank, oil pan, fuel, oil lines and drain plugs for leaks that would spill fuel or oil on the road.

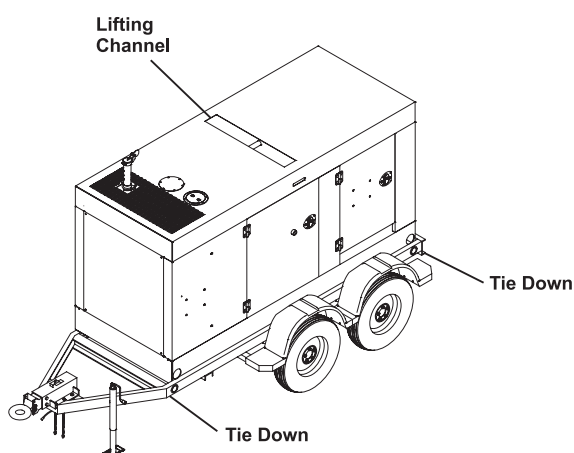
Check fasteners and mounting brackets periodically to insure all are tight and nothing is in danger of falling off during transit.

REV A

GENERAL SAFETY (Cont.)

BE CAREFUL WHEN LIFTING. NEVER SUSPEND ANY OTHER EQUIPMENT FROM THE SHIPPING TIE DOWNS.

Use the lifting eye for lifting the trailer (with cabinet). Make sure any tie-downs at the bottom of the trailer are released prior to lifting.



NEVER CLIMB ON TOP OF THE CABINET.

RECEIPT OF DELIVERY CHECKLIST

The generator will be serviced, tested and ready for operation upon delivery. Terex recommends the following checks:

- ☐ Insure there is no freight handling damage which should be charged against the carrier.
- ☐ Check the front jack for security and proper operation.
- ☐ Check that the tires are not damaged, under inflated or that any lugs are loose.
- ☐ Check the engine/generator for obvious damage, loose connections, or leaks.
- ☐ Check the control panel for damage or loose connections.
- ☐ Check the exhaust system for damage.
- ☐ Check all fluid levels; battery, radiator, and engine oils.
- ☐ Ensure manuals are in the pocket provided inside the unit.

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TRANSPORT & TOWING

All trailer-mounted Terex Super Quiet generators are designed for highway and off road towing capability. Please consult state and local transportation codes before transporting the generator set. Additionally, all state and local traffic laws take precedence over the following instructions whenever differences arise between them.

- Make sure the towing vehicle is of adequate size to both tow and stop the unit.
- Disconnect all wiring and cabling (including the ground wire) from the generator set.
- Close and latch or lock all access doors.
- Using the front leveling jack, raise the trailer hitch to an adequate height so that the generator can be securely attached to the transporting vehicle.
- Ensure that the coupler is properly secured to the towing vehicle and attach the safety chains. Attach the "breakaway" chain on the surge brake and the electrical coupler if these options are included on the unit.

ALWAYS USE THE PROPER TRAILER HITCH AND SAFETY CHAINS. OBEY ALL LOCAL OR STATE D.O.T. LAWS WHEN TOWING A GENERATOR.

FAILURE TO PROPERLY SECURE THE TRAILER TO THE TOWING VEHICLE MAY RESULT IN SERIOUS INJURY OR DEATH.

- Retract the front leveling jack into its stowed position.

GENERAL SAFETY (Cont.)

- Check the tires for proper inflation and verify that the lug nuts are tight.
- If equipped with towing lights, connect the electrical coupler to the towing vehicle.
- Observe posted speed limits for trailers. Generally, do not exceed **45 mph** on paved roads and **10 mph** on unpaved roads.

EXCEEDING THESE RECOMMENDED SPEEDS CAN CAUSE SEVERE DAMAGE TO THE UNIT. DAMAGE CAUSED BY THESE UNSAFE PRACTICES WILL VOID THE MANUFACTURER'S WARRANTY.

SETUP

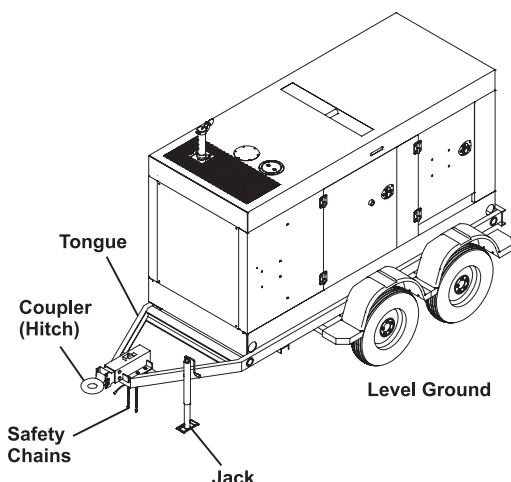
Move the generator set to the desired location keeping the following in mind:

- The spot where the generator set is positioned should be relatively level.
 - The location selected should be centrally located to equipment requiring the loads to minimize voltage drop in the power cord.
 - Locate so power cords can be routed without crossing roads and access routes.
 - Locate where the engine will get good ventilation. Do not locate where fumes will enter a building.
 - Do not place beside a building wall that would reflect and intensify noise.
- Unhitch from the towing vehicle as follows:
- Locate the generator set in the desired location.

REV A

 SETUP (Cont.)

- If the axle is sloped downhill, turn the generator set so that the axle is level.
- **ALWAYS** chock the wheels of the generator set.
- Unhook safety chains and running lights.
- Rotate the tongue jack into position (90 degrees) and raise the tongue off the towing vehicle.
- Level the generator set with the tongue jack.



THE WHEELS MUST BE PROPERLY CHOCKED IF THE GENERATOR IS ON UNLEVEL GROUND. DO NOT OPERATE THE GENERATOR SET UNTIL IT HAS BEEN PROPERLY SECURED.

When preparing to start the generator set, follow the sequence listed below:

- Check the coolant level in the radiator, and add as necessary. If adding coolant, use only a 50/50 mixture of antifreeze and water. Refer to your engine manufacturer's maintenance manual for specific antifreeze information.

NEVER REMOVE THE RADIATOR CAP WHILE THE ENGINE IS RUNNING OR WHILE THE ENGINE IS HOT.

- Check the oil level in the engine crankcase, and add as required.

USE CLASS API, CC OR CD GRADE ENGINE OIL. REFER TO THE ENGINE MANUFACTURER'S MANUAL FOR VISCOSITY AND QUANTITY.

- If the battery is not a maintenance free battery, check the electrolyte level in the battery and add distilled water if necessary.
- Check fuel/water separator for water in the fuel system. Drain water from separator if necessary.
- Check fuel level in the fuel tank and add as required. Check to insure the fuel tank vent is "open" and not clogged.

USE #2 DIESEL FUEL ONLY.

- Verify that the generator main circuit breaker is in the "OFF" position.
- Make sure the generator set is properly grounded. This is accomplished by connecting the grounding lug provided at the rear of the generator set enclosure to a mechanical earhground with a minimum 2/0 size #4 bare electrical cable. If this differs from your local code, always follow the local code for grounding.

THIS GENERATOR SET PRODUCES VOLTAGES THAT CAN CAUSE SEVERE SHOCK OR DEATH! ONLY QUALIFIED ELECTRICIANS SHOULD PERFORM ELECTRICAL WORK.

REV A



OPERATING INSTRUCTIONS

STARTING THE ENGINE/ GENERATOR SET

NEVER ATTEMPT TO START THE GENERATOR SET WITH ANY OF THE CIRCUIT BREAKERS "ON". THESE BREAKERS ARE LOCATED ON THE CONTROL PANEL. STARTING WITH THE BREAKERS "ON" CAN CAUSE DAMAGE TO THE GENERATOR.

Once setup procedures are completed, the generator set is ready to be started. Start the unit according to the following steps:

- Make sure the **GENERATOR VOLTAGE SELECTOR SWITCH** has been set to the proper range. This switch should be located above the 3-phase distribution panel. **(DISREGARD IF THE UNIT DOESN'T HAVE A SELECTOR SWITCH. THIS UNIT IS PRESET FOR ONE VOLTAGE. SEE NAME TAG.)**

NEVER CHANGE THE POSITION OF THE VOLTAGE SELECTOR SWITCH WHILE THE GENERATOR IS RUNNING! THIS WILL RESULT IN IMMEDIATE DAMAGE TO THE SWITCH, THE GENERATOR, OR THE CONNECTED EQUIPMENT. IT MAY RESULT IN SERIOUS INJURY TO THE OPERATING PERSONNEL.

For Cascade Equipped Generators:

1. Place the toggle switch in "ON" position then press the **MANUAL ("MAN") BUTTON** on the Cascade Controller. Make sure all debris and obstructions have been cleared from moving parts and electrical terminals. The generator will only make 3 attempts at starting before it must be reset with the switch. If unit starts proceed to step 4.

For DynaGen Equipped Generators:

2. If the unit is equipped with a DynaGen controller

place the toggle switch in the "**MANUAL**" position to start the engine. Make sure all debris and obstructions have been cleared from moving parts and electrical terminals. If the engine fails to start, the "**NO SPEED SIGNAL**" led will light. Return the toggle switch to the "**OFF**" position then back to the "**MANUAL**" position. If the engine fails to start again refer to the DynaGen manual or call Terex service. The "**AUTO**" position is to be used only with the remote start feature. If unit starts proceed to step 4.

For iGuard Equipped Generators:

3. Place the toggle switch in "ON" position then press the **START BUTTON** on the iGuard Controller. Make sure all debris and obstructions have been cleared from moving parts and electrical terminals. The generator will only make 3 attempts at starting before it must be reset with the switch. If unit starts proceed to step 4.
4. Now that the generator set is running, allow five minutes for warm-up time.
5. Listen for any unusual sounds or excess vibrations that could signal problems and require immediate shutdown of the unit. Should unusual sounds be detected, shut the unit down, and contact **TEREX** Service.
6. Once the engine has been started and running smoothly, the following gauges should be monitored. All gauges are located on the control panel.
 - **Oil Pressure Gauge** - This gauge should read 30 psi or higher.
 - **Coolant Temperature Gauge** - This gauge should read between 170-200 degrees F.

REV A

OPERATING INSTRUCTIONS (Cont.)

- **Voltmeter** - This gauge should read at least 13-15 volts DC to indicate the diesel engine's alternator is charging properly.
- **AC Voltmeter** - This gauge should reflect the proper voltage selected for this operation. Refer to "Potentiometer (Voltage Adjustment)" on page 16.
- **AC Ammeter** - The reading on this gauge should be zero since the main breaker is in the "OFF" position. Once a load is applied to the generator, the ammeter will produce an appropriate reading.



LOADING INSTRUCTIONS

To make the electrical hookup to the generator set, observe the following set of procedures:

SHUT DOWN THE GENERATOR SET BY PRESSING THE "OFF" BUTTON ON THE CASCADE CONTROL PANEL. SWITCH THE TOGGLE TO THE "OFF" POSITION BEFORE MAKING ANY ELECTRICAL CONNECTIONS. THE MAIN GENERATOR BREAKER SHOULD BE IN THE "OFF" POSITION.

- Shut down the generator set.
- Connect the desired electrical apparatus to the generator set, while making sure no other power source is connected to the same apparatus.
- Restart the engine and monitor the gauges as outlined in the "Operating Instructions" section under "Starting the Engine/Generator Set".
- Turn the required generator circuit breakers to the "ON" position.
- Monitor the AC Ammeter - If the needle deflects severely to the right and stays there, immediately turn the required generator circuit breakers to the "OFF" position.

SEVERE DEFLECTION OF THE AMMETER INDICATES A WIRING PROBLEM OR AN OVERLOAD PROBLEM. CONTINUED OPERATION UNDER THIS CONDITION WILL CAUSE DAMAGE TO THE GENERATOR AND/OR CONNECTED APPARATUS.

The needle on the ammeter will deflect to the right temporarily and then return to a normal reading if the unit is operating properly.



VOLTAGE SELECTOR SWITCH OPERATION

The **TEREX Super Quiet** generator sets rated from T25I to the T280J are equipped with a **VOLTAGE SELECTOR SWITCH**. This switch can have three positions marked "**480/277-3 Phase**" and "**240/139-3 Phase**", or "**240/120-1 Phase**". Each position delivers a different output voltage to the **DISTRIBUTION LUGS**. The **SELECTOR SWITCH** and **DISTRIBUTION LUGS** are located on the **DISTRIBUTION PANEL**. The following instructions should be considered when operating the **VOLTAGE SELECTOR SWITCH**.

- Always make sure the voltage selector switch has been set to the desired range before starting the generator set.

THIS GENERATOR SET PRODUCES VOLTAGES THAT CAN CAUSE SEVERE SHOCK OR DEATH! ONLY QUALIFIED ELECTRICIANS SHOULD PERFORM ELECTRICAL WORK.

NEVER OPERATE THE VOLTAGE SELECTOR SWITCH WHILE THE GENERATOR IS RUNNING! THIS WILL RESULT IN IMMEDIATE DAMAGE TO THE SWITCH, THE GENERATOR, OR THE CONNECTED EQUIPMENT WHICH WILL ALSO VOID THE WARRANTY. IT MAY RESULT IN SERIOUS INJURY TO THE OPERATING PERSONNEL.

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VOLTAGE SELECTOR SWITCH OPERATION

- The voltage selector switch can control the single-phase receptacles provided on the unit. Their indicated voltages should be checked after selecting the setting of the switch. The Y voltage configurations of 480 and 240 will have a voltage of 139 on the GFI receptacles.

The voltage selector switch will have three positions, and each position gives a different output to the three-phase distribution lugs (designated as “L1”, “L2”, “L3”, and “N”) located on the distribution panel.

In the three-phase “480/277” position, the following will be the normal output voltages:

- Line - to - Line (“L1” to “L2”, “L2” to “L3”, “L1” to “L3”) 480 VAC/3P.
- Line - to - Neutral (“L1”, “L2” or “L3” to “N”) 277 VAC/1P.

NOTICE: This three-phase wiring configuration is referred to as “Hi Wye”.

In the three-phase “240/139” position, the following will be the normal output voltages:

- Line - to - Line (“L1” to “L2” and “L2” to “L3”; “L1” to “L3”) 240 VAC/3P.
- Line - to - Neutral (“L1”, “L2”, or “L3” to “N”) 139 VAC/1P.

NOTICE: This three-phase wiring configuration is referred to as “Lo Wye”.

NOTICE: The above voltages can be “dialed down”, or adjusted lower, by using the voltage adjustment potentiometer located on the generator main control panel.

OPERATING INSTRUCTIONS (Cont.)



THIS EQUIPMENT USES HIGH VOLTAGE CIRCUITS CAPABLE OF CAUSING SERIOUS INJURY OR DEATH! EXERCISE EXTREME CAUTION AROUND ANY ELECTRICAL COMPONENT WHEN OPERATING THIS UNIT.

The three position selector switch has **HI WYE 480 V 3ph.**, **LOW WYE 240 V 3ph.** and **240V single phase** that is **Zig Zag**. The following is the output voltages on the zigzag position.

- Line - to - Line (“L1” to “L3”) 240 VAC/1P.
- Line - to - Neutral (“L1” or “L3” to “N”) 120 VAC/1P. “L2” is not used in this position.

Once the required voltages are known, then the combination of the proper switch position and voltage adjustment potentiometer allows for fine tuning the voltage to the exact needs of the application.

ONCE THE PROPER VOLTAGE SELECTOR SWITCH POSITION IS SELECTED, TEREX HIGHLY RECOMMENDS THAT THE SWITCH BE PADLOCKED IN THAT POSITION. THIS PREVENTS THE SWITCH FROM BEING MOVED WHILE THE UNIT IS OPERATING OR BY UNAUTHORIZED PERSONNEL. DAMAGE TO THE UNIT AND ANY CONNECTED EQUIPMENT WILL BE AVOIDED.

REV A

OPERATING INSTRUCTIONS (Cont.)

DO NOT OPERATE THE UNIT UNLESS VOLTAGE HAS BEEN CHECKED AT THE RECEPTACLES. CALL TEREX SERVICE IF YOU HAVE ANY QUESTIONS.

INSTALLATION AND ANY WORK PERFORMED ON THIS UNIT SHOULD BE DONE ONLY BY A QUALIFIED ELECTRICIAN.

DO NOT REMOVE OR COVER ORIGINAL SAFETY AND OPERATION DECALS. REPLACE ANY DAMAGED DECALS BEFORE USING THIS EQUIPMENT!

POTENTIOMETER (VOLTAGE ADJUSTMENT)

The potentiometer is set at the factory. However, if the voltage reading on the voltmeter is not as desired use the following procedure to make the necessary adjustments. With the unit running, under no load, observe the AC voltmeter. Locate the voltage adjustment knob on the control panel. The decal above the knob indicates the direction to turn the knob to increase or decrease the voltage. Turning the knob to the right increases the voltage while turning the knob to the left decreases the voltage. Slowly turn the adjustment knob in the desired direction, while observing the AC voltage meter, stop when the desired voltage is obtained. The unit is now ready to load. If the desired voltage cannot be reached contact the **TEREX Service Department** at 1-800-433-3026.

MURPHY CASCADE CONTROLLER

For generators with the Murphy Cascade Controller installed refer to the *"Cascade Controller Installation and Operations Manual p/n 00-02-0594"* (Terex part number 833011) supplied with the unit for configuration and operation.

DYNAGEN AUTO START ENGINE CONTROLLER

For generators with the DynaGen Controller installed refer to the *"DynaGen Installation and User Manual for the ES51/52 Auto Start Engine Controller"* (Terex part number 833012) supplied with the unit for configuration and operation.

MURPHY iGUARD CONTROLLER

For generators with the Murphy iGUARD Controller installed refer to the *"Installation and Operations Manual for iGuard Digital Generator Set Controller p/n IG-02117N"* (Terex part number 839058) supplied with the unit for configuration and operation.

WOODWARD SPEED CONTROLLER

For generators with the Woodward Speed Controller installed refer to the *"Woodward Manual LCS Series Integrated Speed Control p/n 37101S1"* (Terex part number 833013) supplied with the unit for configuration and operation.



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**OVERCURRENT PROTECTION**

This relay is mounted behind the control panel and monitors the current draw and uneven current draw to protect the generator set. This trip setting is set at the factory with the proper kW using a loadbank.

THIS SETTING SHOULD NEVER BE CHANGED OR GENERATOR FAILURE CAN OCCUR.

NOTICE: Call TEREX Service for wiring and troubleshooting information.

OPERATING INSTRUCTIONS (Cont.)**SHUTDOWN PROCEDURES**

NEVER SHUT THE UNIT DOWN WHILE UNDER LOAD. THIS COULD CAUSE SERIOUS INJURIES TO THE PERSON OPERATING THE MACHINE OR DAMAGE THE GENERATOR.

NEVER SHUT THE UNIT DOWN WITH THE MAIN GENERATOR CIRCUIT BREAKER IN THE "ON" POSITION. THIS CAN CAUSE DAMAGE TO THE GENERATOR AND/OR THE CONNECTED APPARATUS.

- Turn all generator breakers to the "OFF" position.
- Allow the engine to run for 5 minutes under no load until the coolant temperature gauge reads approximately 175°F as a cool down cycle.

For Cascade Equipped Generators:

- Stop the engine by pushing the Cascade Controller "OFF" button.

For DynaGen Equipped Generators:

- Stop the engine by switching the DynaGen toggle switch to the "OFF" position.

For iGuard Equipped Generators:

- Stop the engine by pushing the iGuard Controller "OFF" button.

REV A

WET STACKING

Wet-Stacking is a common problem with diesel engines which are operated for extended periods with light or no loads applied. When a diesel engine operates without sufficient load, it will not operate at its' optimum temperature. This will allow unburned fuel to accumulate in the exhaust system, which can foul the fuel injectors, engine valves and exhaust system, including turbochargers, causing the engine to run rough and reduce the operating performance.

Wet Stacking does not usually cause any permanent damage and can be alleviated if additional load is applied to relieve the condition. Applying an increasing load until the excess fuel build up is burned off and the system capacity is reached usually can repair the condition.

A review of the appropriate equipment manuals is important to understand fully the connection and use of the load bank you choose for your maintenance and testing requirements.

TEREX suggests a minimum load of 30 percent of nameplate to prevent wet stacking, inversely related to temperature (the lower the ambient temperature the higher the minimum load).

TEREX recommends testing at least monthly for a minimum of 30 minutes at not less than 80 percent of nameplate rating. The proper installation and use of a load bank can prevent loss of capacity and increased maintenance caused by unburned fuel due to wetstacking.

In the event you have a generator set that is already wet stacked, it is recommended that the load bank be used in progressive steps.

Assure the generator set is properly grounded and connected to the load bank as instructed by the manufacture. It is also recommended that the generator be set at 240 VAC, 3 phase when doing this test.

Starting out using less than 25% of the nameplate rating until the engine has warmed up. Progressively increase the load as the generator will allow without shutting down, and continue to run for 20 minutes per step. When you reach 80% of the nameplate rating, run the generator for a minimum of 45 minutes, or until the exhaust on the unit runs clean. Allow the machine to fully cool down. Start the unit again and load @ 80% for an additional 30 minutes. A full engine service is recommended after this type wetstack burn off.

REV A

TORQUE SPECIFICATIONS

SAE FASTENER TORQUE CHART											
• This chart is to be used as a guide only unless noted elsewhere in this manual •											
SIZE	THREAD	Grade 5 				Grade 8 				A574 High Strength Black Oxide Bolts	
		LUBED		DRY		LUBED		DRY		LUBED	
		in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
1/4	20	100	11.3	80	9	140	15.8	110	12.4	130	14.7
	28	90	10.1	120	13.5	120	13.5	160	18	140	15.8
		LUBED		DRY		LUBED		DRY		LUBED	
		ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
5/16	18	13	17.6	17	23	18	24	25	33.9	21	28.4
	24	14	19	19	25.7	20	27.1	27	36.6	24	32.5
3/8	16	23	31.2	31	42	33	44.7	44	59.6	38	51.5
	24	26	35.2	35	47.4	37	50.1	49	66.4	43	58.3
7/16	14	37	50.1	49	66.4	50	67.8	70	94.7	61	82.7
	20	41	55.5	55	74.5	60	81.3	80	108.4	68	92.1
1/2	13	57	77.3	75	101.6	80	108.4	110	149	93	126
	20	64	86.7	85	115	90	122	120	162	105	142
9/16	12	80	108.4	110	149	120	162	150	203	130	176
	18	90	122	120	162	130	176	170	230	140	189
5/8	11	110	149	150	203	160	217	210	284	180	244
	18	130	176	170	230	180	244	240	325	200	271
3/4	10	200	271	270	366	280	379	380	515	320	433
	16	220	298	300	406	310	420	420	569	350	474
7/8	9	320	433	430	583	450	610	610	827	510	691
	14	350	474	470	637	500	678	670	908	560	759
1	8	480	650	640	867	680	922	910	1233	770	1044
	12	530	718	710	962	750	1016	990	1342	840	1139
1.125	7	590	800	790	1071	970	1315	1290	1749	1090	1477
	12	670	908	890	1206	1080	1464	1440	1952	1220	1654
1.25	7	840	1138	1120	1518	1360	1844	1820	2467	1530	2074
	12	930	1260	1240	1681	1510	2047	2010	2725	1700	2304
1.5	6	1460	1979	1950	2643	2370	3213	3160	4284	2670	3620
	12	1640	2223	2190	2969	2670	3620	3560	4826	3000	4067

METRIC FASTENER TORQUE CHART																
• This chart is to be used as a guide only unless noted elsewhere in this manual •																
Size (mm)	Class 4.6 				Class 8.8 				Class 10.9 				Class 12.9 			
	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
5	16	1.8	21	2.4	41	4.63	54	6.18	58	6.63	78	8.84	68	7.75	91	10.3
6	19	3.05	36	4.07	69	7.87	93	10.5	100	11.3	132	15	116	13.2	155	17.6
7	45	5.12	60	6.83	116	13.2	155	17.6	167	18.9	223	25.2	195	22.1	260	29.4
	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
8	5.4	7.41	7.2	9.88	14	19.1	18.8	25.5	20.1	27.3	26.9	36.5	23.6	32	31.4	42.6
10	10.8	14.7	14.4	19.6	27.9	37.8	37.2	50.5	39.9	54.1	53.2	72.2	46.7	63.3	62.3	84.4
12	18.9	25.6	25.1	34.1	48.6	66	64.9	88	69.7	94.5	92.2	125	81	110	108	147
14	30.1	40.8	40	54.3	77.4	105	103	140	110	150	147	200	129	175	172	234
16	46.9	63.6	62.5	84.8	125	170	166	226	173	235	230	313	202	274	269	365
18	64.5	87.5	86.2	117	171	233	229	311	238	323	317	430	278	377	371	503
20	91	124	121	165	243	330	325	441	337	458	450	610	394	535	525	713
22	124	169	166	225	331	450	442	600	458	622	612	830	536	727	715	970
24	157	214	210	285	420	570	562	762	583	791	778	1055	682	925	909	1233

* An anti-seize lubricant MUST be used on all stainless steel hardware.



REV B

GENERATOR TORQUE SPECIFICATIONS

Generator	FT*LB
Flex Plate to Flywheel	32-44
Generator Case to Bellhousing	60
1/2" Hex Head Screws for Lifting Channel	120
Genset Isolators	78

Service & Parts Catalog



Introduction

Important

Read, understand and obey the safety rules and operating instructions in the appropriate Operator's Manual on your machine before attempting any maintenance procedure.

Basic mechanical, hydraulic and electrical skills are required to perform most procedures. However, several procedures require specialized skills, tools, lifting equipment and a suitable workshop. In these instances, we strongly recommend that maintenance and repair be performed at an authorized TEREX dealer service center.

Technical Publications

TEREX Corporation has endeavored to deliver the highest degree of accuracy possible. However, continuous improvement of our products is a TEREX policy. Therefore, product specifications are subject to change without notice.

Readers are encouraged to notify TEREX of errors and send in suggestions for improvement. All communications will be carefully considered for future printings of this and all other manuals.

Serial Number Information

TEREX Corporation offers the following manuals for these models:

Title	Part No.
TEREX T70 & T80 Operator's/Parts Manual, First Edition	833015
Newage Generator Manual	830005
John Deere Engine Manual	839018
Perkins Engine Manual	839019
Cummins Engine Manual	839059
Cummins Engine Manual	839060
Woodward Controls	833013
DynaGen Controller Manual	833012
Cascade Controller Manual	833011
Murphy iGuard Controller Manual	839058
Dexter Axle Manual	833014

Contact Us:

www.TEREX.com

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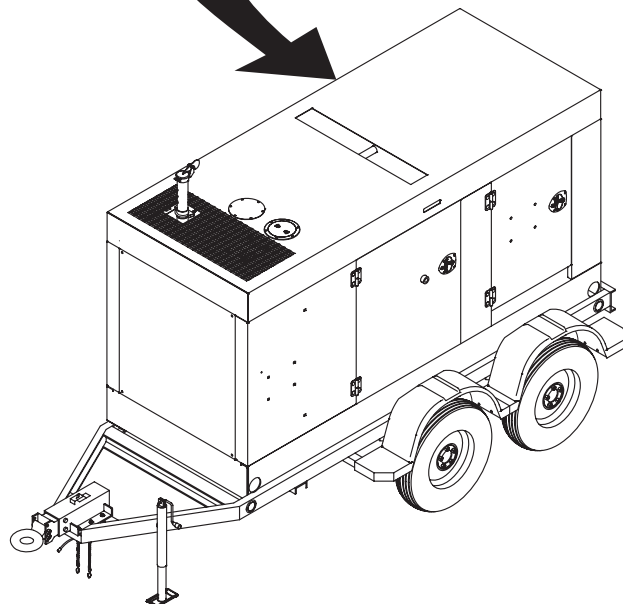
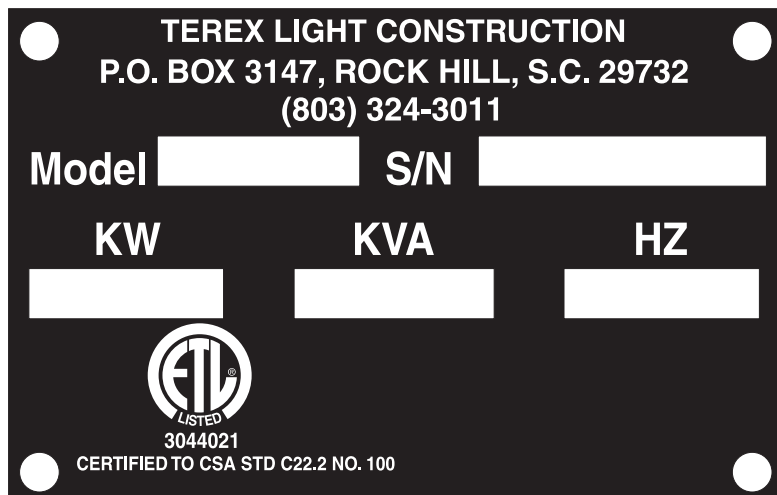
 Printed on recycled paper

Printed in U.S.A.

How to Read Your Serial Number

Serial Number Legend

The serial number plate on your T70 & T80 Super Quiet Generator is located on the twist lock area of the lower control panel.





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TEREX Safety Rules



Danger

Failure to obey the instructions and safety rules in this manual and the appropriate Operator's Manual on your machine will result in death or serious injury.

Many of the hazards identified in the operator's manual are also safety hazards when maintenance and repair procedures are performed.

Do Not Perform Maintenance Unless:

- ☒ You are trained and qualified to perform maintenance on this machine.
- ☒ You read, understand and obey:
 - manufacturer's instructions and safety rules
 - employer's safety rules and worksite regulations
 - applicable governmental regulations
- ☒ You have the appropriate tools, lifting equipment and a suitable workshop.

SAFETY RULES

Personal Safety

Any person working on or around a machine must be aware of all known safety hazards. Personal safety and the continued safe operation of the machine should be your top priority.



Read each procedure thoroughly. This manual and the decals on the machine, use signal words to identify the following:



Safety alert symbol—used to alert personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

Red—used to indicate the presence of an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

Orange—used to indicate the presence of a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

Yellow with safety alert symbol—used to indicate the presence of a potentially hazardous situation which, if not avoided, may cause minor or moderate injury.

CAUTION

Yellow without safety alert symbol—used to indicate the presence of a potentially hazardous situation which, if not avoided, may result in property damage.

NOTICE

Green—used to indicate operation or maintenance information.



Be sure to wear protective eye wear and other protective clothing if the situation warrants it.



Be aware of potential crushing hazards such as moving parts, free swinging or unsecured components when lifting or placing loads. Always wear approved steel-toed shoes.

Workplace Safety



Be sure to keep sparks, flames and lighted tobacco away from flammable and combustible materials like battery gases and engine fuels. Always have an approved fire extinguisher within easy reach.



Be sure that all tools and working areas are properly maintained and ready for use. Keep work surfaces clean and free of debris that could get into machine components and cause damage.



Be sure that your workshop or work area is properly ventilated and well lit.



Be sure any forklift, overhead crane or other lifting or supporting device is fully capable of supporting and stabilizing the weight to be lifted. Use only chains or straps that are in good condition and of ample capacity.



Be sure that fasteners intended for one time use (i.e., cotter pins and self-locking nuts) are not reused. These components may fail if they are used a second time.



Be sure to properly dispose of old oil or other fluids. Use an approved container. Please be environmentally safe.



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Parts Stocking List

Required Parts

The following parts are required to perform maintenance procedures as outlined in the *TEREX T70 & T80 Parts and Service Manual*.

Description	Part No.
-------------	----------

Perkins 1104C.44TG1 Models

Oil Filter	741921
Air Filter	741925 & 741924
Fuel Filter	741923
V-belt	866054

John Deere 4045TF270 Models

Oil Filter	741915
Air Filter	C33100502 & C33100503
Fuel Filter	741916
V-belt	741943

Cummins 4BT3.9-G5 Models

Oil Filter	839062
Air Filter	C33100502 & C33100503
Fuel Filter	839061
V-belt	839063

John Deere 4045TF275 Models

Oil Filter	741915
Air Filter	C33100502 & C33100503
Fuel Filter	741944
V-belt	741943



How To Order Parts

Please be prepared with the following information when ordering replacement parts for your TEREX product:

- ☒ Machine model number
- ☒ Machine serial number
- ☒ Terex part number
- ☒ Part description and quantity
- ☒ Purchase order number
- ☒ "Ship to" address
- ☒ Desired method of shipment
- ☒ Name and telephone number of the authorized TEREX Distributor in your area

Use the Service Parts Fax Order Form on the next page and fax your order to our Parts Department.

If you don't know the name of your authorized distributor, or if your area is not currently serviced by an authorized distributor, please call TEREX Corporation.

Genie Industries

18340 NE 76th Street

P.O. Box 97030

Redmond, WA 98073-9730

Telephone (877) 367-5606

Fax (888) 274-6102

genieindustries.com

Machine Information

Model

Serial Number

Date of Purchase

Authorized TEREX Distributor

Phone Number



Service Parts fax Order Form

FAX TO: (800) 633-5534 OR TOLL FREE: 800-433-3026

Date _____ Account Number _____

Your Name _____ **Your Fax Number** _____

Your Phone Number _____

Bill To Ship To

Purchase Order Number _____ Ship Via _____

Model(s) _____ **Serial No.(s)** _____

Optional Equipment _____

[illegible]

- Ship complete order only - no backorders
- Ship all available parts and contact customer on disposition of backordered parts
- Other (please specify)

Order Number _____ Origin Code _____ Comments _____

Date Scheduled _____ Ship Condition _____

Order Total _____ Terms Code _____

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**TEREX**

Specifications

REV A

MODEL		T70C	T70J	T70P	T80J
POWER CAPABILITY-PRIME					
kVA (kilovolt-amps)		72	72	70	81
kW		58	58	54	65
3 Phase Amp Ratings					
	208V	200	200	189	225
	240V	173	173	164	195
	480V	87	87	82	97
POWER CAPABILITY-STANDBY					
kVA (kilovolt-amps)		79	79	75	90
kW (kilowatts)		63	63	60	72
3 Phase Amp Ratings					
	208V	219	219	208	250
	240V	190	190	180	217
	480V	95	95	90	108
VOLTAGE					
3 Phase 208, 220, 240, 416, 440, 480 600 Volt		Standard Optional	Standard Optional	Standard Optional	Standard Optional
1 Phase 120, 127, 139, 240, 254, 277		Standard	Standard	Standard	Standard
Max Motor Starting1	Hp	39	39	39	49
	kW	29	29	29	37
SKVA		235	235	235	290
DIESEL ENGINE					
Manufacturer		CUMMINS	JOHN DEERE	PERKINS	JOHN DEERE
Model		4BT3.9-G5	4045TF270	1104C-44TG	4045TF275
Cylinder		4	4	4	4
Air Intake (aspiration)		Natural	Turbo	Turbo	Turbo
Cooling System		Std Rad	Std Rad	Std Rad	Std Rad
Fuel Capacity (gal)		118	118	118	118
Run Time (75% load)		33	33	34	28
Fuel Consumption, Prime Power (gal per hr)	100% load	4.7	4.6	4.5	5.6
	75% load	NA	3.6	3.5	4.3
	50% load	NA	2.5	2.5	2.9
	25% load	NA	1.4	2	1.6
dBA		66	65	65	65
Controller Type		Digital/Analog	Analog	Digital/Analog	Digital
Start/Stop Controller		Cascade	Dynagen	Cascade	iGuard
12V Battery (CCA)		750	750	750	750



SPECIFICATIONS

REV A

MODEL		T70C	T70J	T70P	T80J
GENERATOR					
Brushless, 4 pole, Synchronous, Single-bearing		Standard	Standard	Standard	Standard
1,800 rpm, Class H Insulation Generator		Standard	Standard	Standard	Standard
High wye, Low wye, Zig-zag Voltage Selector		Standard	Standard	Standard	Standard
3 Phase Voltage: 208, 220, 240, 416, 440, 480		Standard	Standard	Standard	Standard
600 Volt		Optional	Optional	Optional	Optional
1Phase Voltage: 120, 127, 139, 240, 254, 277		Standard	Standard	Standard	Standard
Convenience Receptacles:		Standard	Standard	Standard	Standard
2 - 20A, 120V GFCI Duplex Receptacles		Standard	Standard	Standard	Standard
3 - 50A Tempowers		Standard	Standard	Standard	Standard
AVR Voltage Regulation (+/- 1.5%)		Standard	Standard	Standard	Standard
Electronic (+/- 1/2%) Speed Control Governor		Standard	Standard	Standard	Standard
Murphy Cascade Start/Stop Controller		Standard	Standard	Standard	Standard
Dynagen ES52 Start/Stop Controller			Standard		
Murphy iGuard Start/Stop Controller					Standard
TRAILER					
Hydraulic Brakes		Standard	Standard	Standard	Standard
Electric Brakes		Optional	Optional	Optional	Optional
Pintle Rng, 3 inch		Standard	Standard	Standard	Standard
Coupler Hitch, 2 inch		Optional	Optional	Optional	Optional
Coupler Hitch, 2 5/16 inch		Optional	Optional	Optional	Optional
SKID MOUNT					
DIM (L x W x H - in)		Standard 110x44x60	Standard 110x44x60	Standard 110x44x60	Standard 110x44x63
Weight Dry (lbs)		4157	4157	4157	4157
Weight Full (lbs)		4995	4995	4995	4995
TRAILER MOUNT					
Dim (L x W x H)		Optional 177x72x77	Optional 177x72x77	Optional 177x72x77	Optional 177x72x77
Weight Dry (lbs)		4980	4980	4980	5357
Weight Full (lbs)		5806	5806	5806	6195
1 Maximum motor size is based on 35% voltage dip at 480V AC 3 phase 60Hz with a code G motor					



SAE FASTENER TORQUE CHART

• This chart is to be used as a guide only unless noted elsewhere in this manual •

SIZE	THREAD	Grade 5				Grade 8				A574 High Strength Black Oxide Bolts	
		LUBED		DRY		LUBED		DRY		LUBED	
		in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
1/4	20	100	11.3	80	9	140	15.8	110	12.4	130	14.7
	28	90	10.1	120	13.5	120	13.5	160	18	140	15.8
		LUBED		DRY		LUBED		DRY		LUBED	
		ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
5/16	18	13	17.6	17	23	18	24	25	33.9	21	28.4
	24	14	19	19	25.7	20	27.1	27	36.6	24	32.5
3/8	16	23	31.2	31	42	33	44.7	44	59.6	38	51.5
	24	26	35.2	35	47.4	37	50.1	49	66.4	43	58.3
7/16	14	37	50.1	49	66.4	50	67.8	70	94.7	61	82.7
	20	41	55.5	55	74.5	60	81.3	80	108.4	68	92.1
1/2	13	57	77.3	75	101.6	80	108.4	110	149	93	126
	20	64	86.7	85	115	90	122	120	162	105	142
9/16	12	80	108.4	110	149	120	162	150	203	130	176
	18	90	122	120	162	130	176	170	230	140	189
5/8	11	110	149	150	203	160	217	210	284	180	244
	18	130	176	170	230	180	244	240	325	200	271
3/4	10	200	271	270	366	280	379	380	515	320	433
	16	220	298	300	406	310	420	420	569	350	474
7/8	9	320	433	430	583	450	610	610	827	510	691
	14	350	474	470	637	500	678	670	908	560	759
1	8	480	650	640	867	680	922	910	1233	770	1044
	12	530	718	710	962	750	1016	990	1342	840	1139
1.125	7	590	800	790	1071	970	1315	1290	1749	1090	1477
	12	670	908	890	1206	1080	1464	1440	1952	1220	1654
1.25	7	840	1138	1120	1518	1360	1844	1820	2467	1530	2074
	12	930	1260	1240	1681	1510	2047	2010	2725	1700	2304
1.5	6	1460	1979	1950	2643	2370	3213	3160	4284	2670	3620
	12	1640	2223	2190	2969	2670	3620	3560	4826	3000	4067

METRIC FASTENER TORQUE CHART

• This chart is to be used as a guide only unless noted elsewhere in this manual •

Size (mm)	Class 4.6				Class 8.8				Class 10.9				Class 12.9			
	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
5	16	1.8	21	2.4	41	4.63	54	6.18	58	6.63	78	8.84	68	7.75	91	10.3
6	19	3.05	36	4.07	69	7.87	93	10.5	100	11.3	132	15	116	13.2	155	17.6
7	45	5.12	60	6.83	116	13.2	155	17.6	167	18.9	223	25.2	1.95	22.1	260	29.4
	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
8	5.4	7.41	7.2	9.88	14	19.1	18.8	25.5	20.1	27.3	26.9	36.5	23.6	32	31.4	42.6
10	10.8	14.7	14.4	19.6	27.9	37.8	37.2	50.5	39.9	54.1	53.2	72.2	46.7	63.3	62.3	84.4
12	18.9	25.6	25.1	34.1	48.6	66	64.9	88	69.7	94.5	92.2	125	81	110	108	147
14	30.1	40.8	40	54.3	77.4	105	103	140	110	150	147	200	129	175	172	234
16	46.9	63.6	62.5	84.8	125	170	166	226	173	235	230	313	202	274	269	365
18	64.5	87.5	86.2	117	171	233	229	311	238	323	317	430	278	377	371	503
20	91	124	121	165	243	330	325	441	337	458	450	610	394	535	525	713
22	124	169	166	225	331	450	442	600	458	622	612	830	536	727	715	970
24	157	214	210	285	420	570	562	762	583	791	778	1055	682	925	909	1233



REV A

GENERATOR TORQUE SPECIFICATIONS

Generator	FT*LB
Flex Plate to Flywheel	32-44
Generator Case to Bellhousing	60
1/2" Hex Head Screws for Lifting Channel	120
Genset Isolators	78



REV A

Scheduled Maintenance Procedures



Observe and Obey:

- ☑ Maintenance inspections shall be completed by a person trained and qualified on the maintenance of this machine.
- ☑ Scheduled maintenance inspections shall be completed as specified using the supplied *Lubrication and Maintenance Service Interval Charts* provided in this section.

⚠ WARNING Failure to perform each procedure as presented and scheduled could result in death, serious injury or substantial damage.

- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.
- ☑ Keep records on all inspections for three years.
- ☑ Machines that have been out of service for a period longer than 3 months must complete the quarterly inspection.
- ☑ Unless otherwise specified, perform each maintenance procedure with the machine in the following configuration:
 - Machine parked on a firm, level surface
 - Toggle switch in the "OFF" position
 - Wheels chocked

About This Section

This section contains detailed procedures for each scheduled maintenance inspection.

Each procedure includes a description, safety warnings and step-by-step instructions.

Symbols Legend



Safety alert symbol—used to alert personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠ DANGER

Red—used to indicate the presence of an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

Orange—used to indicate the presence of a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

Yellow with safety alert symbol—used to indicate the presence of a potentially hazardous situation which, if not avoided, may cause minor or moderate injury.

CAUTION

Yellow without safety alert symbol—used to indicate the presence of a potentially hazardous situation which, if not avoided, may result in property damage.

NOTICE

Green—used to indicate operation or maintenance information.

- ⦿ Indicates that a specific result is expected after performing a series of steps.
- ✗ Indicates that an incorrect result has occurred after performing a series of steps.

Pre-Delivery Preparation

Fundamentals

It is the responsibility of the dealer to perform the Pre-delivery Preparation.

The Pre-delivery Preparation is performed prior to each delivery. The inspection is designed to discover if anything is apparently wrong with a machine before it is put into service.

A damaged or modified machine must never be used. If damage or any variation from factory delivered condition is discovered, the machine must be tagged and removed from service.

Repairs to the machine may only be made by a qualified service technician, according to the manufacturer's specifications.

Scheduled maintenance inspections shall be performed by qualified service technicians, according to the manufacturer's specifications and the requirements listed in the responsibilities manual.

Instructions

Use the operator's manual on your machine.

The Pre-delivery Preparation consists of completing the Pre-operation Inspection, the Maintenance items and the Function Tests.

Use this form to record the results. Place a check in the appropriate box after each part is completed. Follow the instructions in the operator's manual.

If any inspection receives an N, remove the machine from service, repair and re-inspect it. After repair, place a check in the R box.

Legend

Y = yes, completed
N = no, unable to complete
R = repaired

Comments

Pre-Delivery Preparation	Y	N	R
Pre-operation inspection completed			
Maintenance items completed			
Function tests completed			

Model

Serial number

Date

Machine owner

Inspected by (print)

Inspector signature

Inspector title

Inspector company





Maintenance Schedules

REV A

T70P & T70C LUBRICATION AND MAINTENANCE SERVICE INTERVALS

ITEM	DAILY	50 Hrs or Wkly	500 Hrs or 12 Mths	1000 Hrs	2000 Hrs
Inspect, adjust or replace alternator or fan belt	•				
Check cooling system coolant level	•				
Check driven equipment	•				
Inspect engine air cleaner service indicator	•				
Check engine oil level	•				
Drain fuel system primary filter/water separator	•				
Walk around inspection	•				
Drain tank water and sediment		•			
Check battery electrolyte level			•		
Clean/replace engine air cleaner element			•		
Inspect/clean engine ground			•		
Change engine oil and filter			•		
Replace water separator element			•		
Replace fuel system secondary filter			•		
Inspect/replace hoses and clamps			•		
Inspect/adjust engine valve lash				•	
Inspect aftercooler core					•
Inspect alternator					•
Inspect engine mounts					•
Inspect starting motor					•
Inspect turbocharger					•
Inspect water pump					•

ITEM	2 Yrs	3000 Hrs	3000 Hrs or 2 Yrs	4000 Hrs	6000 Hrs or 3 Yrs	12000 Hrs or 6 Yrs
Change cooling system coolant	•					
Test/change fuel injector		•				
Change cooling system coolant (commercial heavy duty)			•			
Clean/test aftercooler core				•		
Add cooling system coolant extender (ELC)					•	
Change cooling system coolant (ELC)						•



MAINTENANCE SCHEDULES CONTINUED

REV A

T70J & T80J LUBRICATION AND MAINTENANCE SERVICE INTERVALS

ITEM	Every 2 Weeks	250 Hrs or 12 Mths	500 Hrs or 12 Mths	2000 Hrs or 12 Mths	As Req.
Operate engine at rated speed and 50%-70% load a minium of 30 minutes	•				
Check engine oil and coolant level	•				
Check fuel filter/water separator bowl	•				
Check air cleaner dust unloader valve and indicator	•				
Perform visual walk around inspection	•				
Change engine oil and replace filter		•			
Check engine mounts		•			
Service battery		•			
Clean crankcase vent tube			•		
Check air intake hoses, connections and system			•		
Replace single or dual fuel filter elements			•		
Check belt tensioner and belt wear			•		
Check engine speeds			•		
Check engine electrical ground connection			•		
Check cooling system			•		
Coolant solution analysis-add SCAs as required			•		
Pressure test cooling system			•		
Check variable speed (droop) (gensets)				•	
Flush cooling system				•	
Test thermostats				•	
Check and adjust engine valve clearance				•	
Add coolant					•
Replace air cleaner elements					•
Replace poly-vee belt					•
Check fuses					•
Check air compressor (if equipped)					•
Bleed fuel system					•



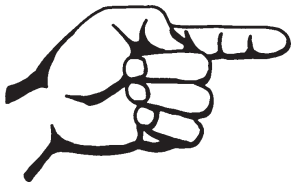
MAINTENANCE SCHEDULES CONTINUED

REV A

NEWAGE GENERATORS MAINTENANCE SCHEDULE

ITEM	DAILY	250 Hours or 3 Months	1500 Hours or 12 Months	4500 Hours or 3 Years	15000 Hours or 19 Years
Visual inspection	•				
Visual inspection plus running audible check		•			
Measure stator winding insulation resistance and record			•		
Monitor bearing/s condition			•		
Remove terminal box lid and check connections			•		
Re-grease bearings				•	
Measure vibration levels					•
Replace bearing/s					•
Replace NDE o-ring					•
Inspect bearing housings					•
Inspect winding conditions					•
Inspect rotating diode assembly					•

*Refer to the manufacturers manuals for detailed maintenance intervals and instructions. If the information in the manufacturer's manual differs from that in this manual the manufacturer's manual should take precedence.



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Troubleshooting

REV A



Observe and Obey:

- ☑ Troubleshooting and repair procedures shall be completed by a person trained and qualified on the repair of this machine.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.
- ☑ Unless otherwise specified, perform each repair procedure with the machine in the following configuration:
 - Machine parked on a firm, level surface.
 - Wheels chocked.
 - Toggle switch in "OFF" position.

Before Troubleshooting:

- ☑ Read, understand and obey the safety rules and operating instructions in the appropriate operator's manual on your machine.
- ☑ Be sure that all necessary tools and test equipment are available and ready for use.
- ☑ Be aware of the following hazards and follow generally accepted safe workshop practices.

⚠ DANGER

Electrocution hazard. Exposure to electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

⚠ DANGER

Electrocution hazard. Attempting to service the machine before the capacitors are fully discharged will result in death or serious injury.

⚠ DANGER

High voltage. Exposure to electrical wires or electrical current will result in death or serious injury. Remove all rings, watches and other jewelry. Turn off all power when not needed for testing. Use extreme caution when working with high voltage electrical components.

⚠ CAUTION

Burn hazard. Contact with hot engine components may cause severe burns. Use caution when working around a hot engine.



Troubleshooting Guide

The engine/generator set is tested and set at the factory for proper operation in the field. These units should never require additional adjustments in the field. If needed, adjustments should only be made by a qualified service technician, otherwise the manufacturer's warranty may become void.

<u>FAULT</u>	<u>POSSIBLE CAUSE</u>	<u>SOLUTION</u>
No generator output voltage	Circuit breaker tripped	Reset circuit breaker
	Voltage regulator	Check voltage regulator wiring
	Defective voltage regulator	Replace voltage regulator
	Defective Selector Switch	By pass by hardwiring generator
	Defective generator	Refer to generator manual
Low generator output voltage	Voltage adjustment set too low	Adjust voltage potentiometer
	Defective potentiometer	By pass or replace
	Low engine speed	Call TEREX Service
	Loose wire on voltage selector switch	Check wiring
	Fluctuating or surging engine speed	Check engine fuel, oil, and air filters
	Loose wire on voltage regulator sensing circuit	Check wiring
	Defective voltage regulator	Replace voltage regulator
High generator output voltage	Voltage adjustment potentiometer	Adjust potentiometer
	High engine speed	Call TEREX Service



REV A

TROUBLESHOOTING

<u>FAULT</u>	<u>POSSIBLE CAUSE</u>	<u>SOLUTION</u>
High generator output voltage	Defective automatic voltage regulator	Replace voltage regulator
	Loose wire on voltage adjustment potentiometer	Check wiring
Fluctuating generator output voltage	An " ON/OFF " type load may be the cause	Redistribute load if possible
	Fluctuating or surging engine speed	Check engine fuel, oil, and air filters
	Loose wiring in generator	Check connections
	Automatic voltage regulator stability setting may be wrong	Call TEREX Service
	Loose wire on the automatic voltage regulator sensing lead	Check wiring
Low engine speed	Engine speed adjustment has slipped	Call TEREX Service
	Clogged fuel system	Check for air leaks, clogged fuel filter, kinked fuel line, or clogged fuel pick-up tube
	Blocked air intake	Check air filter
	Blocked exhaust system	Check engine exhaust system, remove obstructions
	Contaminated fuel	Check fuel/water separator and fuel tank for contamination. Replace fuel if needed
	Defective governor on engine	Call TEREX Service



TROUBLESHOOTING

REV A

<u>FAULT</u>	<u>POSSIBLE CAUSE</u>	<u>SOLUTION</u>
Low Speed	Defective injectors on engine	Have injectors checked by a qualified technician
	"Surging" engine speed	Check engine fuel, oil, and air filters
Engine turns over (cranks), but won't run	Unit out of fuel	Check fuel level in tank, fill as needed
	Loose or broken wire in control circuit fuel injection pump solenoid	Check wiring to verify 12V DC is being supplied to the pump solenoid
	Defective solenoid	Replace solenoid
	Magnetic Pick-up	Adjust for 2.5-3.0 VAC
	Clogged fuel system	Check fuel system
	Air in fuel system	"Bleed" fuel system
	Defective fuel pump	Check and replace if defective
	Clogged air intake	Check air cleaner
	Clogged exhaust	Check exhaust system
	Contaminated fuel	Check fuel/water separator and tank for contamination
	Defective injectors	Have injection system checked by a trained technician
	Lost engine compression	Have compression checked by a trained technician
Engine won't crank	Loose battery cable or discharged battery	Check cables and battery electrolyte level. Recharge as necessary



REV A

TROUBLESHOOTING

<u>FAULT</u>	<u>POSSIBLE CAUSE</u>	<u>SOLUTION</u>
Engine won't crank	Engine "ON/OFF" switch set in "OFF" position	Check switch position
	Blown fuse in DC control circuit	Replace with 25 Amp. SLO-BLO TYPE fuse if needed.
	E-Stop	Check to see if engaged
	Defective starter solenoid	Replace solenoid
	Defective starter	Replace starter
	Oil Pressure or Hi temp switch defective	Check or call TEREX Service
	Seized engine	Have engine checked by a qualified technician
Engine runs, but loses speed	Unit is overloaded	Reduce load
	Improper connection	Check or Call TEREX Service
Engine runs, but loses power under load	Clogged fuel system	Check fuel system air in fuel lines
	Blocked air intake	Check air cleaner
	Blocked exhaust	Check exhaust system
	Contaminated fuel	Check fuel/water separator and fuel tank for contamination
	Faulty governor, defective injectors, or defective fuel pump	Have unit checked by a trained service technician for all of these items
Engine shuts down automatically and TROUBLE LIGHT on CONTROL PANEL is illuminated	Oil Pressure Switch	Not opening
	Improper coolant level	Use a 50/50 on mix of water and anti-freeze only



TROUBLESHOOTING

REV A

<u>FAULT</u>	<u>POSSIBLE CAUSE</u>	<u>SOLUTION</u>
Engine shuts down automatically and TROUBLE LIGHT on CONTROL PANEL is illuminated	Overloaded engine	Reduce load
	Broken fan belt	Inspect fan belt and replace as needed
	Defective thermostat or thermocouple switch	Inspect thermostat switch
	Defective water pump	Inspect water pump and replace if needed
	Blocked cooling air inlet or exhaust	Inspect and remove any obstructions
	Defective or grounded temperature switch	Inspect switch and repair or replace
	Defective injectors or injector pump	Have the engine inspected by a trained service technician
	Low crankcase oil level	Check oil level and refill as required
	Defective oil pump	Have the engine inspected by a trained service technician
	Defective or grounded oil pressure switch	Inspect switch and repair or replace

IF YOU FEEL AN ELECTRIC SHOCK AT ANY TIME WHILE OPERATING THIS UNIT, SHUT IT DOWN IMMEDIATELY! HAVE THE UNIT INSPECTED BY A TRAINED ELECTRICIAN.

THIS ENGINE/GENERATOR SET IS FACTORY INSTALLED, TESTED, AND SET FOR FIELD OPERATION. ANY DAMAGE TO THE ENGINE OR GENERATOR UNITS OCCURRING AFTER ADJUSTMENTS ARE MADE IN THE FIELD BY UNAUTHORIZED PERSONNEL WILL NOT BE COVERED BY YOUR MANUFACTURER'S WARRANTY AND WILL ALSO VOID THE MANUFACTURER'S WARRANTY ON THIS PARTICULAR UNIT. IF YOU CAN NOT REACH YOUR LOCAL DEALER, CONTACT THE FACTORY SERVICE MANAGER TOLL FREE AT 1-800-433-3026.



REV A

TROUBLESHOOTING

Electrical Troubleshooting

5 Components that cause voltage related problems

Potentiometer

Connects to voltage regulator. Bypass potentiometer by unplugging from voltage regulator and installing jumper on 2 male spades on regulator.

Voltage Regulator

(Located inside the upper control panel behind the gauges.)

Measure DC voltage at F1 & F2. Normal voltage is 10 to 12 V DC. Remove 2 wires marked (F1, X)(F2, X X) from voltage regulator. Connect wire marked F1 to positive and F2 to negative of a 12 volt battery. Start unit and measure voltage. If unit produces close to maximum output, replace Automatic Voltage Regulator.

Voltage Selector Switch

The correct way to test is to disconnect from generator and hard wire the generator into one configuration. This will eliminate the switch from the circuit and verify that the generator is functioning properly. All contacts should be checked following the proper schematic with the switch disconnected from the generator set. Actual loads can cause failures in contacts that cannot be duplicated using a meter.

Overcurrent Relay

This device causes the 3-phase breaker to trip that supplies AC power to the distribution lugs if uneven or excessive current is measured at the distribution lugs. It is also connected to the 3-phase door switch and will automatically trip the 3-phase breaker when the door is open and prevents the breaker from being reset while it is open.

Generator

Test resistance of field, stator and exciter windings. Contact **TEREX** for procedures or repair facility recommended by generator manufacturer.



Procedure for testing generator with no output

THIS EQUIPMENT USES HIGH VOLTAGE CIRCUITS CAPABLE OF CAUSING SERIOUS INJURY OR DEATH! EXERCISE EXTREME CAUTION AROUND ANY ELECTRICAL COMPONENT WHEN OPERATING THIS UNIT.

IT IS ESSENTIAL THAT ALL TEST INSTRUMENTS ARE REGULARLY CHECKED FOR SAFETY, AND ANY CONNECTION LEADS, PROBES, OR CLIPS, ARE CHECKED TO ENSURE THAT THEY ARE SUITABLE FOR THE VOLTAGE LEVELS BEING TESTED.

NEVER ATTEMPT TO TEST A "LIVE" GENERATOR UNLESS THERE IS ANOTHER COMPETENT PERSON PRESENT WHO CAN SWITCH OFF THE POWER SUPPLY OR SHUT DOWN THE ENGINE IN AN EMERGENCY.

NEVER EXPOSE "LIVE" CONNECTIONS UNLESS YOU HAVE CREATED A SAFE WORKING AREA AROUND YOU. MAKE SURE YOU HAVE MADE ALL OTHER PERSONS IN THE IMMEDIATE AREA FULLY AWARE OF WHAT YOU ARE DOING.

- When a new generator is not producing voltage, the testing or wiring personnel should first verify that the unit is wired correctly! The stack switch and generator leads should all be checked as well as the breaker and sensing leads. If the unit was not wired correctly and you flashed the generator, you could burn up the unit. **(Do not forget to check the sensing leads!).**



Procedure for testing generator with no output (cont.)

- After performing the initial checks above, remove the field wires from the voltage regulator (F1 or X is positive and F2 or XX is negative). Connect the battery + to the F1 or X wire and battery - to the F2 or XX wire. Start the engine and check for the rated voltage. **Hooking this up incorrectly will reverse polarity and could damage the voltage regulator and /or generator end.** This check should correct any voltage problems. If your voltage does not come up to the rated voltage, this indicates an internal problem with the generator end. The output should be close to proper voltage. Also, if the unit comes up to voltage, check for even reading across the lines if they are not this would mean you probably have a problem with the wiring of the switch or generator. If the generator voltage reads correctly you know there is not a problem with the generator end. Your problem is more than likely with the voltage regulator. In this case, you should contact the **TEREX** service department.
- If the voltage is uneven between the legs when you apply 12 volts to the field wires you need to recheck your wiring connections. **(If you can not find the problem hard wire the generator!)** After you have the field wire connected start the unit again and check your output voltage. It may still be necessary to flash the fields to restore residual voltage. This needs to be done with the unit off and the field wires removed. **(Do not flash the regulator, flash the field wires)**
- As with any electrical device use extreme caution when working around a running generator it could cost you your life. Observe proper polarity when working with the regulator so you don't break something that is not broken to begin with, and if you are ever in doubt, ask.

INSTALLATION AND ANY WORK PERFORMED ON THIS UNIT SHOULD BE DONE ONLY BY A QUALIFIED ELECTRICIAN.



Procedure for changing the magnetic pick-up sensor

THIS EQUIPMENT USES HIGH VOLTAGE CIRCUITS CAPABLE OF CAUSING SERIOUS INJURY OR DEATH! EXERCISE EXTREME CAUTION AROUND ANY ELECTRICAL COMPONENT WHEN OPERATING THIS UNIT.

INSTALLATION AND ANY WORK PERFORMED ON THIS UNIT SHOULD BE DONE ONLY BY A QUALIFIED ELECTRICIAN.

- Make sure generator is turned off and e-stop is engaged before opening control panel.
- Locate the two wires going to the speed controller mounted on the inside of the control pan marked MPU + and MPU -.
- Both wires are isolated in their own shielded cable.
- Once the wires are loose, pull them through the back of the control box until they are completely free from all ty-wraps and wire harnesses.
- Unscrew and remove the old sensor.
- Align the flywheel tooth to the center of the sensor hole.
- Install new sensor until it bottoms out on flywheel tooth and then back it off ¼ turn.
- To insure proper installation, the sensor must



REV A

TROUBLESHOOTING



Procedure for changing the magnetic pick-up sensor (cont.)

be checked with a voltage meter. With the engine in a starting sequence check for 2.5 to 3 VAC between the red and black wire. Adjust the sensor in or out to obtain the correct voltage.

- Once the voltage is correct, reinstall the shielded cable through the control box opening and reattach the wire leads to the speed controller. Also, secure the new cable through the housing with ty-wraps where needed.

If any further adjustment is needed to the voltage of the generator please call **Terex** at 1-800-433-3026 for assistance.



Procedure for changing the voltage potentiometer

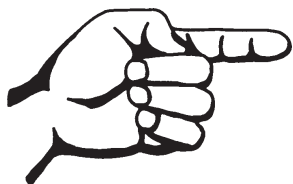
THIS EQUIPMENT USES HIGH VOLTAGE CIRCUITS CAPABLE OF CAUSING SERIOUS INJURY OR DEATH! EXERCISE EXTREME CAUTION AROUND ANY ELECTRICAL COMPONENT WHEN OPERATING THIS UNIT.

INSTALLATION AND ANY WORK PERFORMED ON THIS UNIT SHOULD BE DONE ONLY BY A QUALIFIED ELECTRICIAN.

- Make sure generator is turned off and e-stop is engaged before opening control panel.
- Locate the two wires going to the back of the potentiometer. Both wires will be white with a red stripe.
- Both wires have been spliced into harness wires and should be cut so that the splice is taken out. It is better to have as few splices as possible and you will be replacing the splice you cut out.

- Once the wires are loose, go to the front of the control panel and loosen the lock nut holding the potentiometer.
- Put the new potentiometer in its place and retighten lock nut.
- Reattach new wires to the same wires and in the same configuration as the ones that were cut loose in step 3.
- After completing the installation of the new potentiometer go back and check all connections to make sure everything is tight and that no connections are loose, this includes all other wiring on the back of the control panel and on the inside of the control box.
- You should now be able to restart the generator and check for proper operation.

If any further adjustment is needed to the voltage of the generator please call **TEREX** at 1-800-433-3026 for assistance.



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Schematics

REV A



Observe and Obey:

- ☑ Troubleshooting and repair procedures shall be completed by a person trained and qualified on the repair of this machine.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.

Before Troubleshooting:

- ☑ Read, understand and obey the safety rules and operating instructions in the appropriate operator's manual on your machine.
- ☑ Be sure that all necessary tools and test equipment are available and ready for use.

About This Section

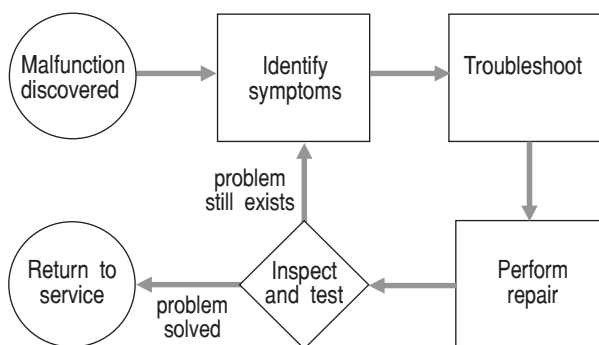
There are two groups of schematics in this section. An illustration legend precedes each group of drawings.

Electrical Schematics

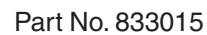
WARNING

Electrocution hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

General Repair Process



REV A

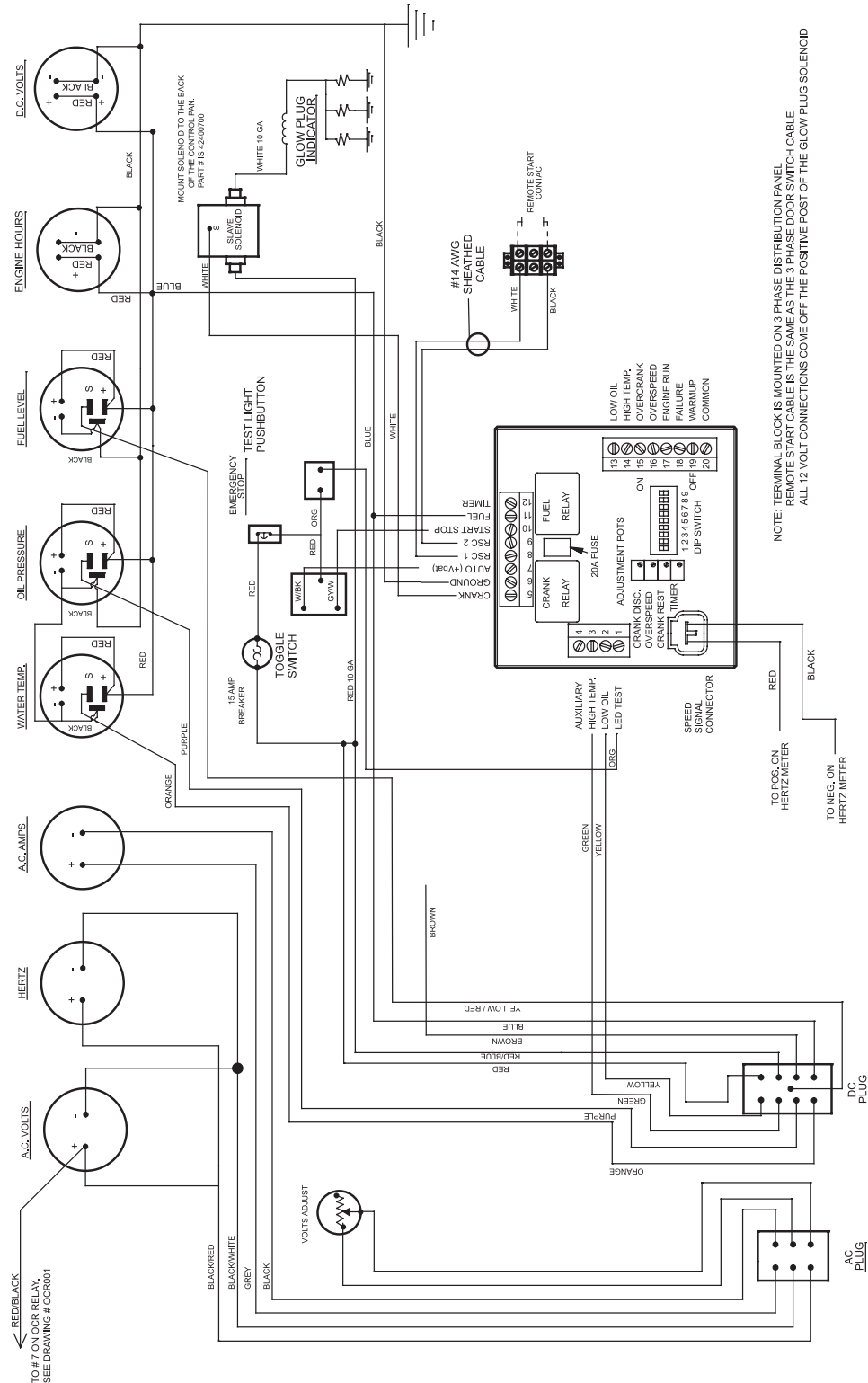


**TEREX****Control Panel Wiring**

for Dynagen Controller

Drawing #EU0007

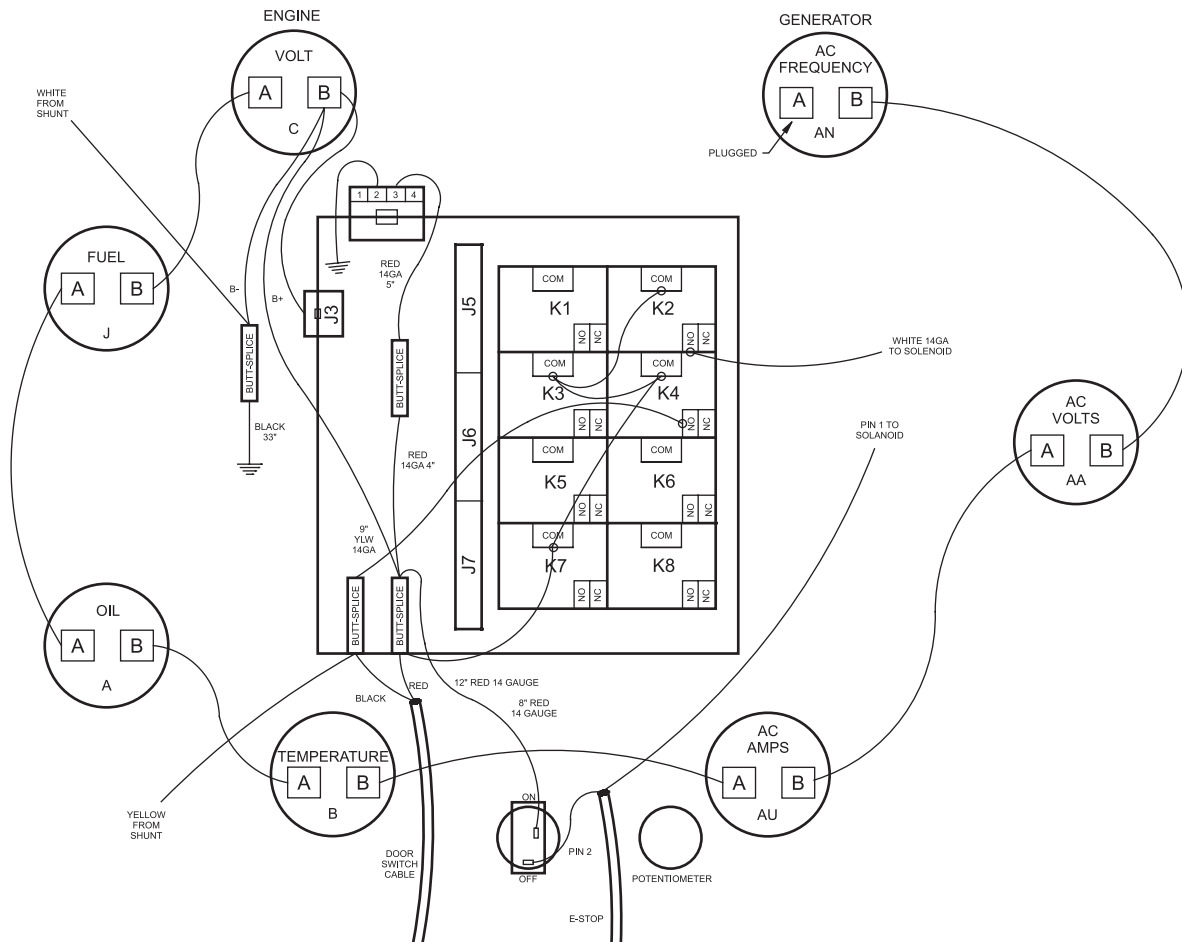
REV A



Control Panel Wiring

for Murphy iGuard Controller
Drawing #EU0004

REV A

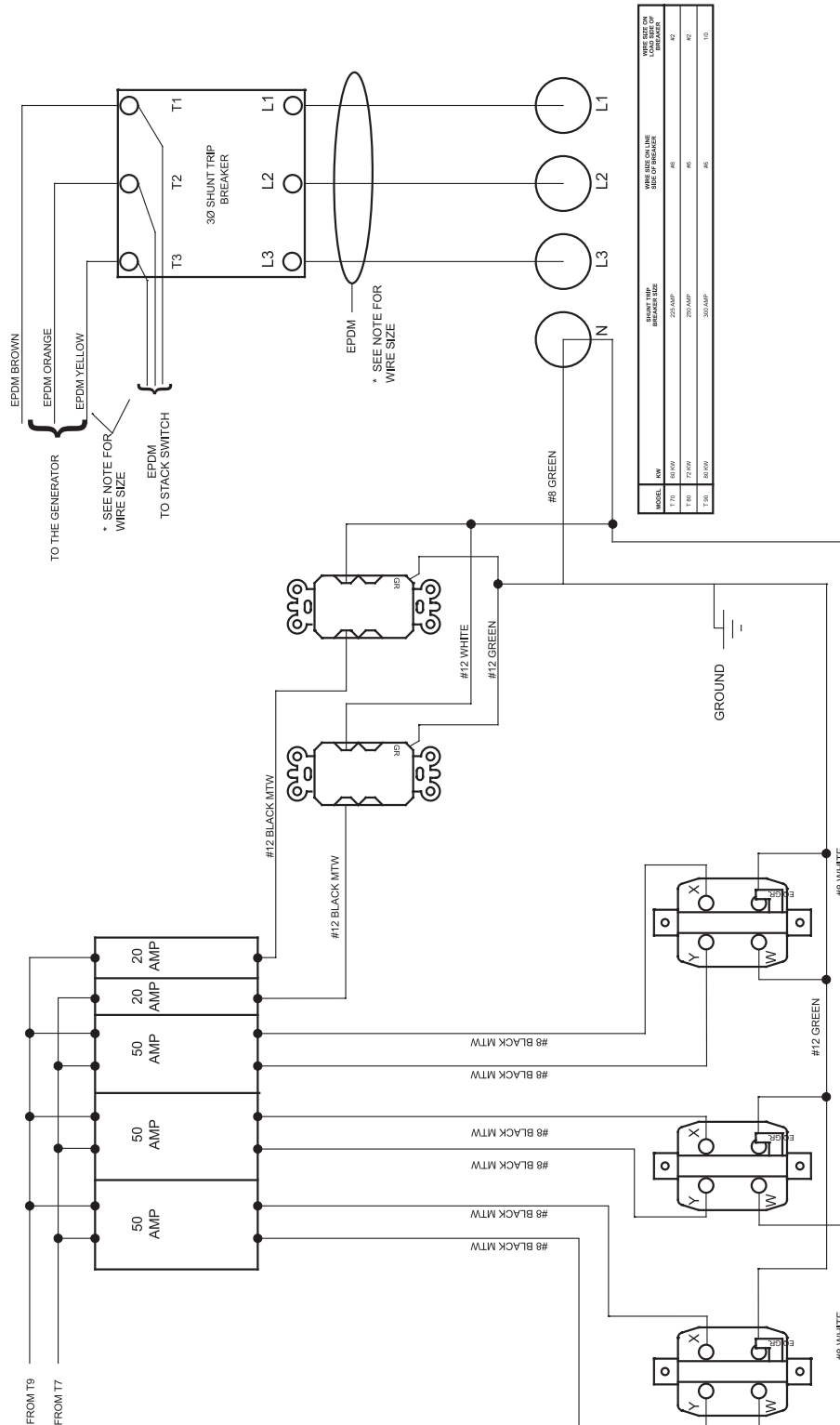


**TEREX**

Distribution Panel Wiring

for "F" Series Single Phase Control
Drawing #ES1000010

REV A

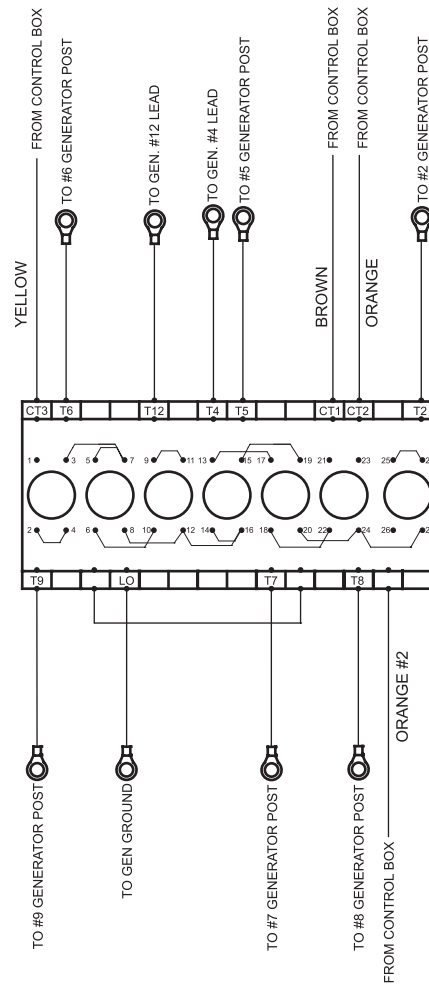




Three Position Stack Switch Wiring

Drawing #ES1000005

REV A



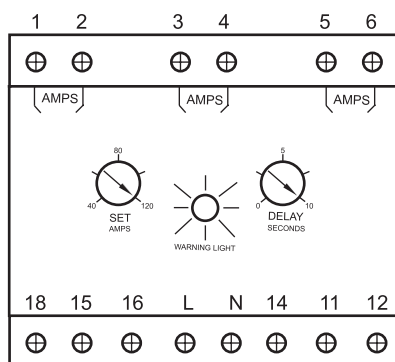
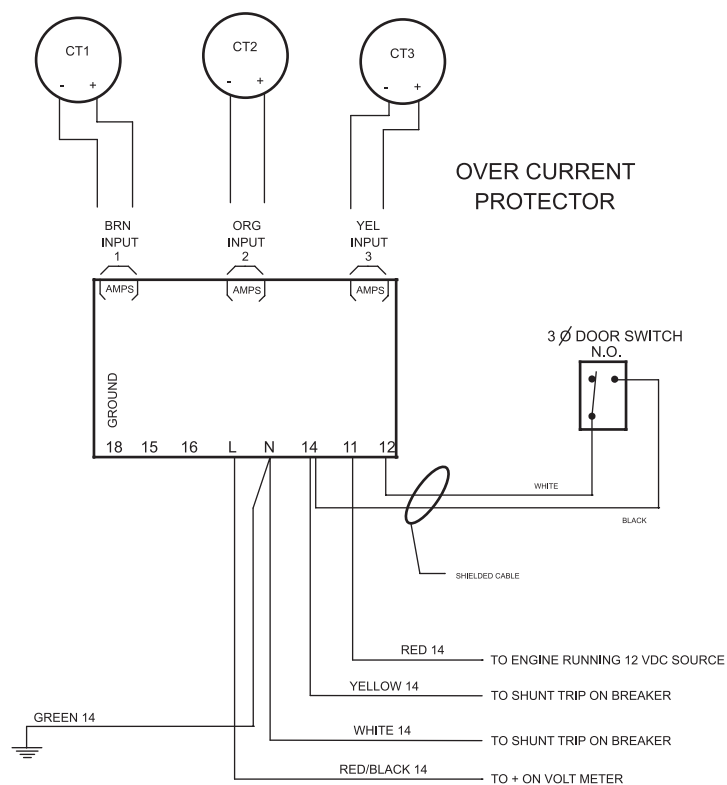
GENERATOR	STACK SWITCH #	WIRE SIZE
T70 (ALL)	C42204002	6 GA. EPDM
T80	C42204002	6 GA. EPDM

NOTE: FOR REFERENCE SEE DRAWINGS #ES100007 & ES100008

**TEREX****Overcurrent Relay Wiring**

Drawing #ES1000006

REV A



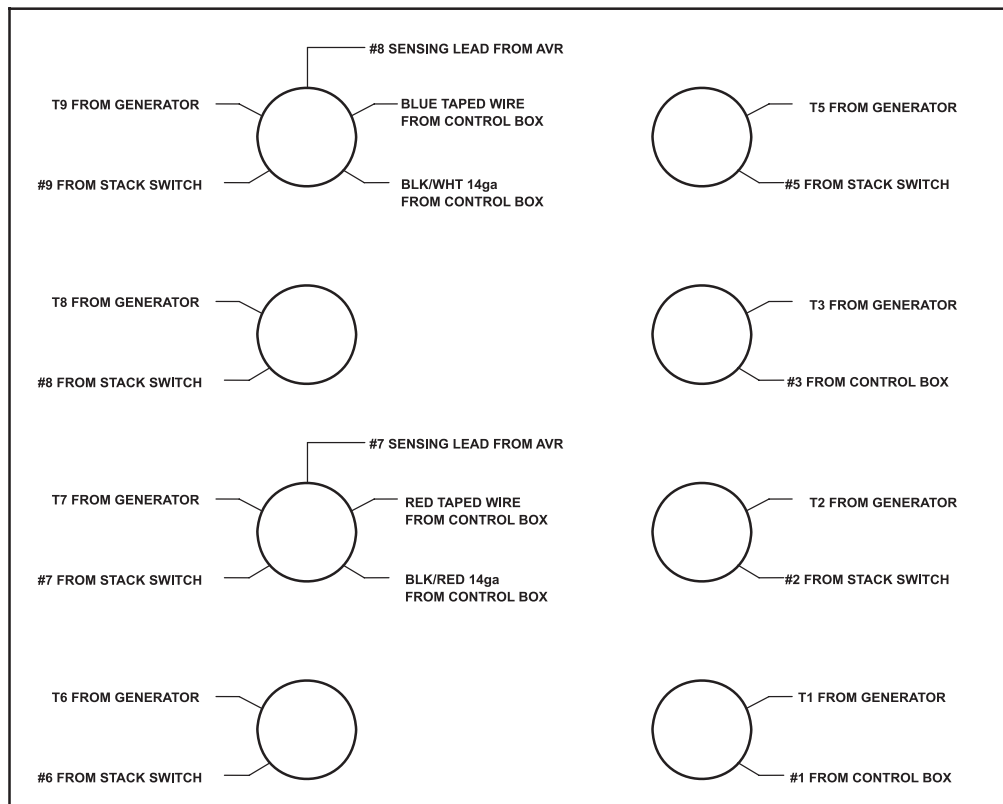
**OVER CURRENT RELAY
FACE PLATE**

THE CT'S FOR EACH UNIT WITH THE OVERCURRENT RELAY
ARE AS FOLLOWS:
T25L, T25G = (4) 100:5
T45L, T50(J,P) & T70(J,C,P) = (3) 100:5 & (1) 200:5
T90P & T120(C,P) = (3) 200:5 & (1) 400:5
T180C = (3) 400:5 & (1) 600:5
T270C = (3) 600:5 (1) 1000:5

**TEREX****Generator Wiring Breakdown**

Drawing #ES1000007

REV A



GENERATOR TOP POSTS



FLEX PLATE/FLYWHEEL

F1 AND F2 FROM GENERATOR TO AVR

#4 FROM GENERATOR TO #4 FROM STACK SWITCH

#12 FROM GENERATOR TO #12 FROM STACK SWITCH

BROWN TAPED WIRE FROM CONTROL BOX TO #21 POSITION ON STACK SWITCH

ORANGE TAPED WIRE FROM CONTROL BOX TO #23 POSITION ON STACK SWITCH

YELLOW TAPED WIRE FROM CONTROL BOX TO #1 POSITION ON STACK SWITCH

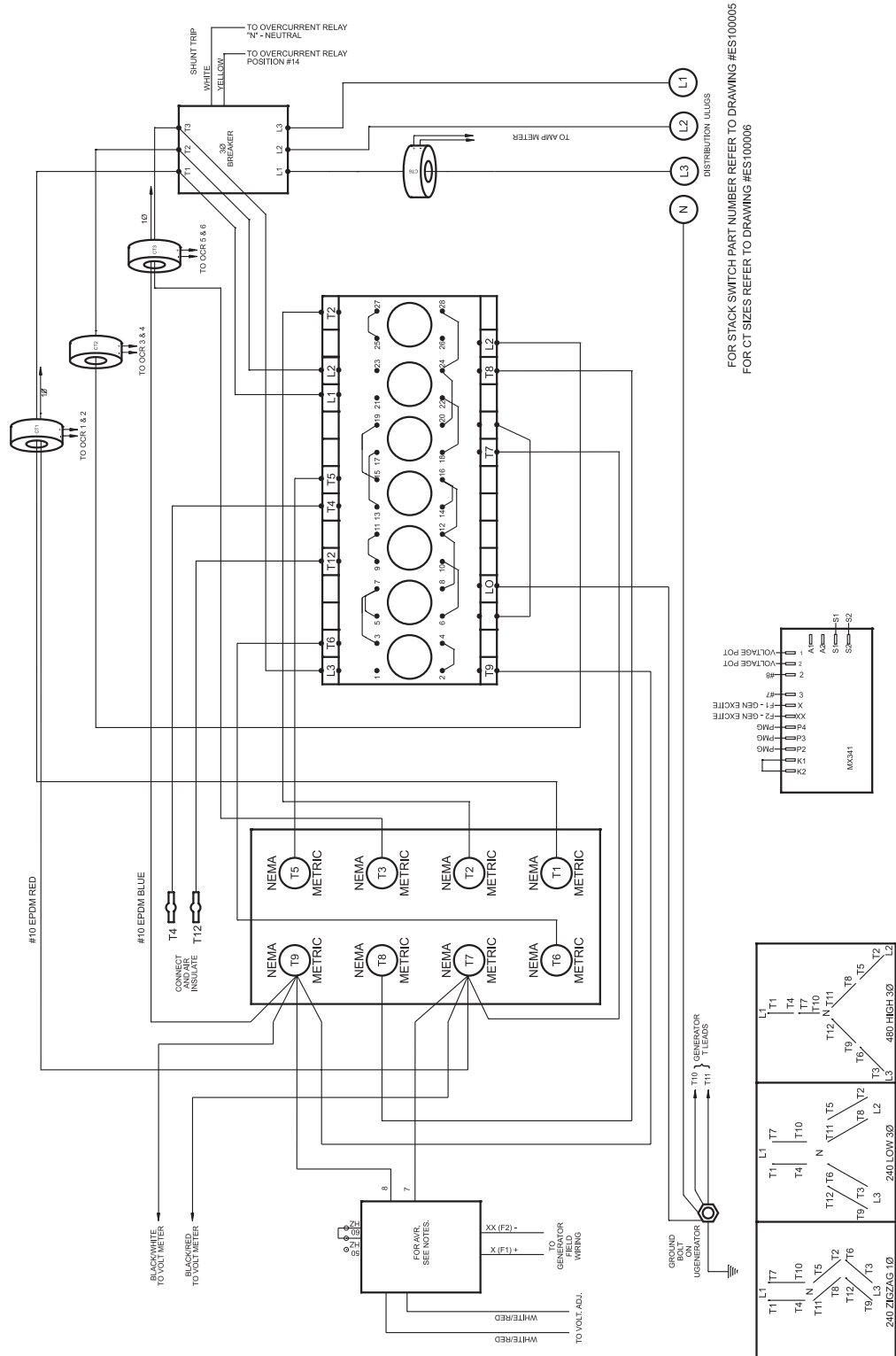
#2 ORANGE TAPED WIRE FROM CONTROL BOX TO #26 POSITION ON STACK SWITCH

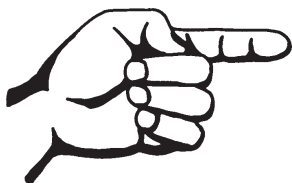
**TEREX****Standard Generator Wiring**

for "F" Series

Drawing #ES1000009

REV A





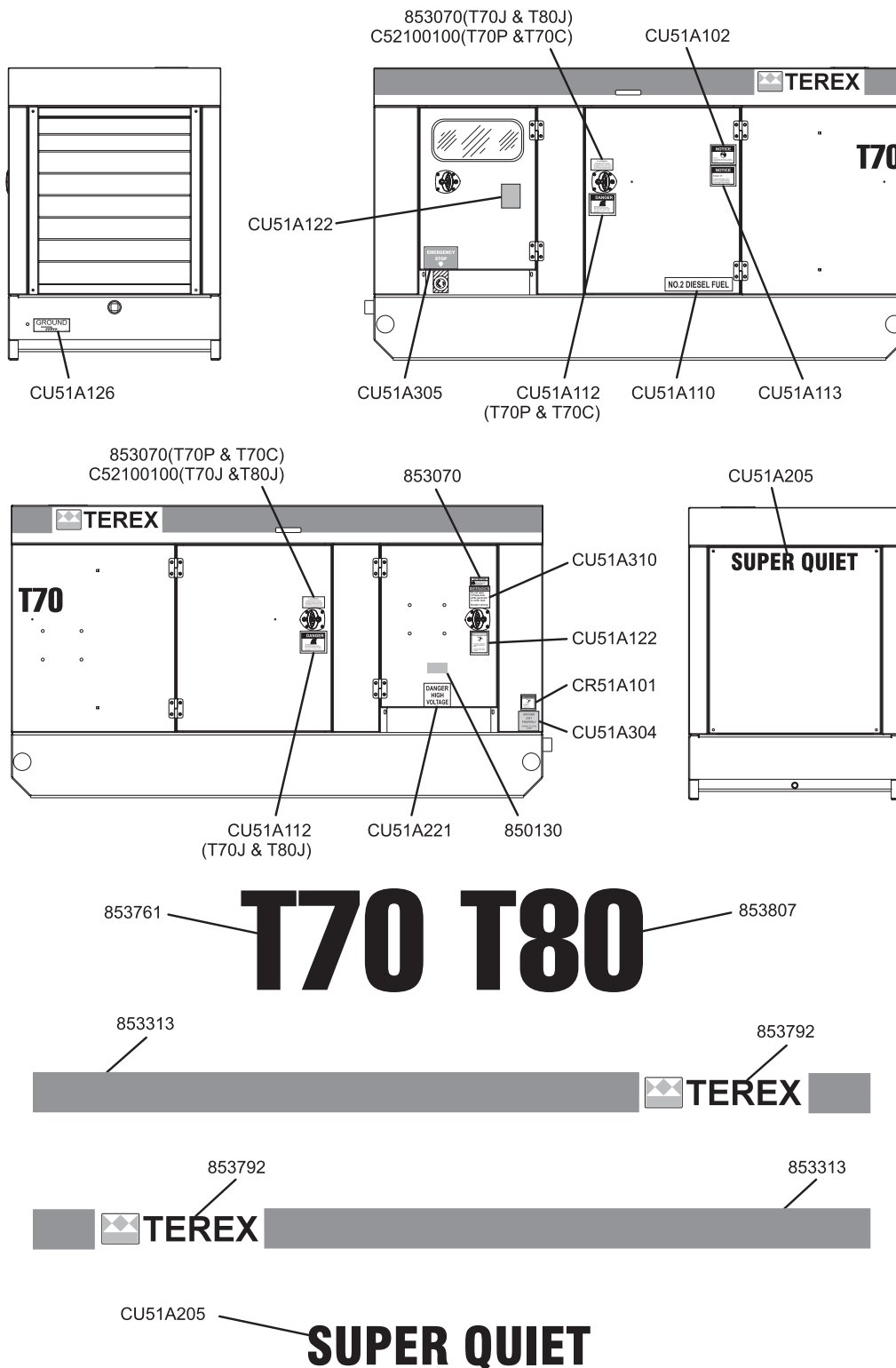
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Decals

Figure 6-A

Decals

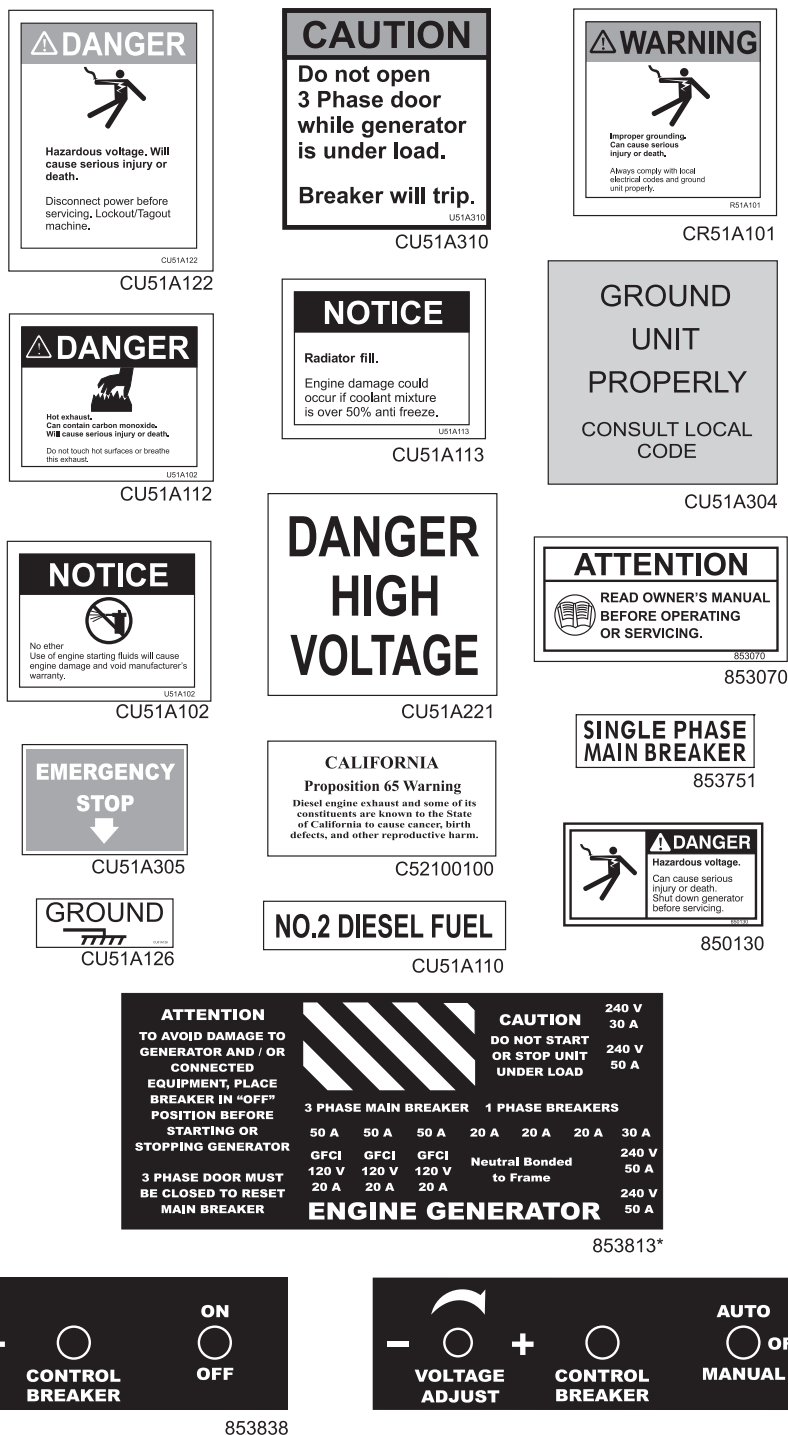
REV A



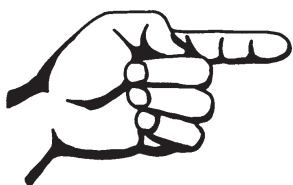


REV A

FIGURE 6-A



* THIS SHEET CONTAINS DECALS FOR THE ENTIRE CONTROL PANEL ASSEMBLY. INDIVIDUAL DECALS ARE NOT AVAILABLE FOR PURCHASE.



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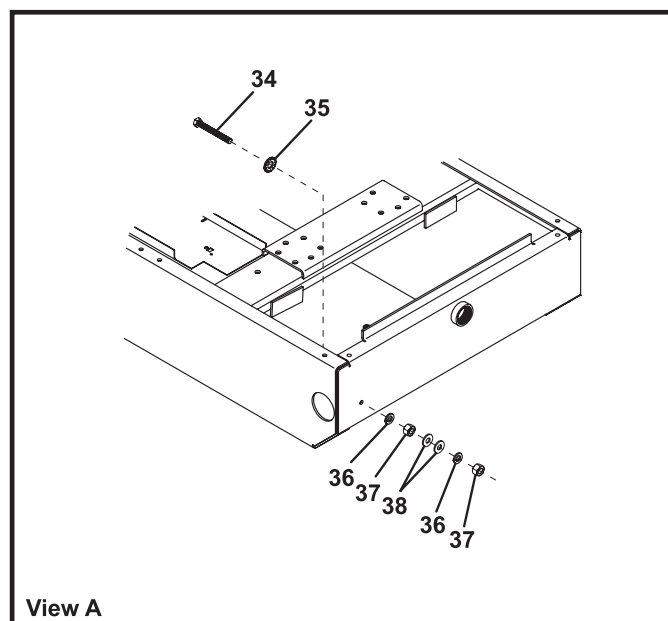
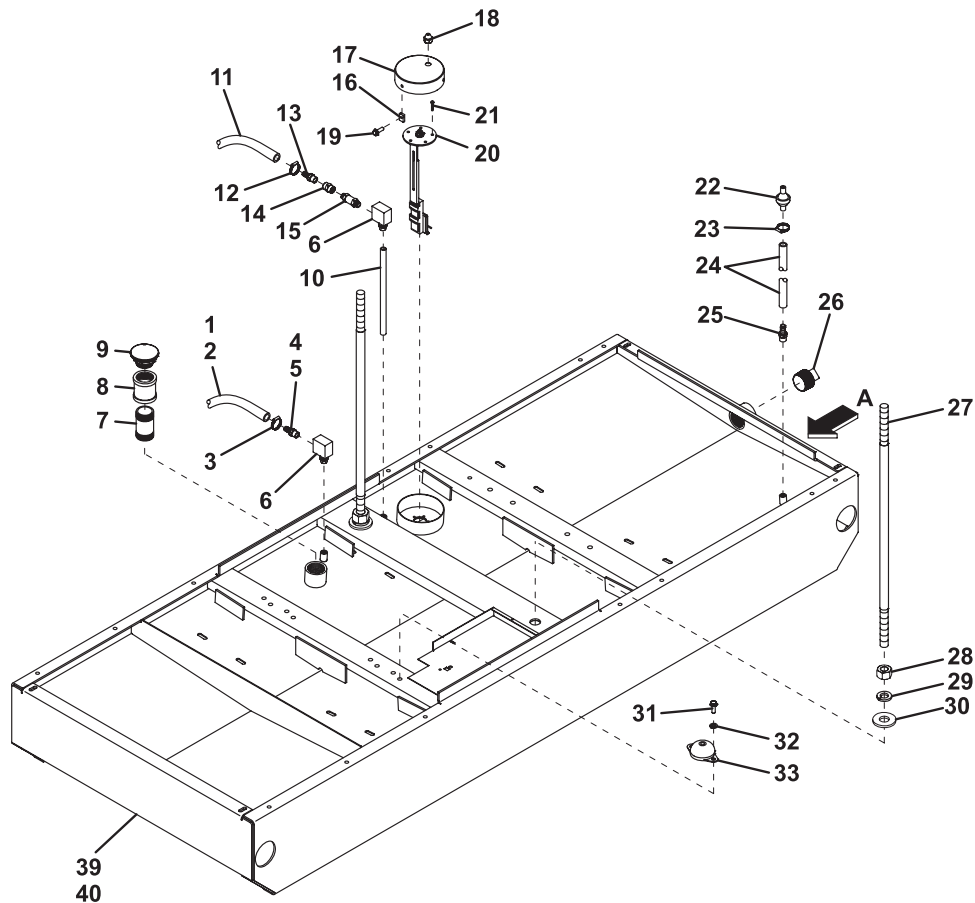
Section Seven

Base Components

Figure 7-A

Base Components

REV A





REV A

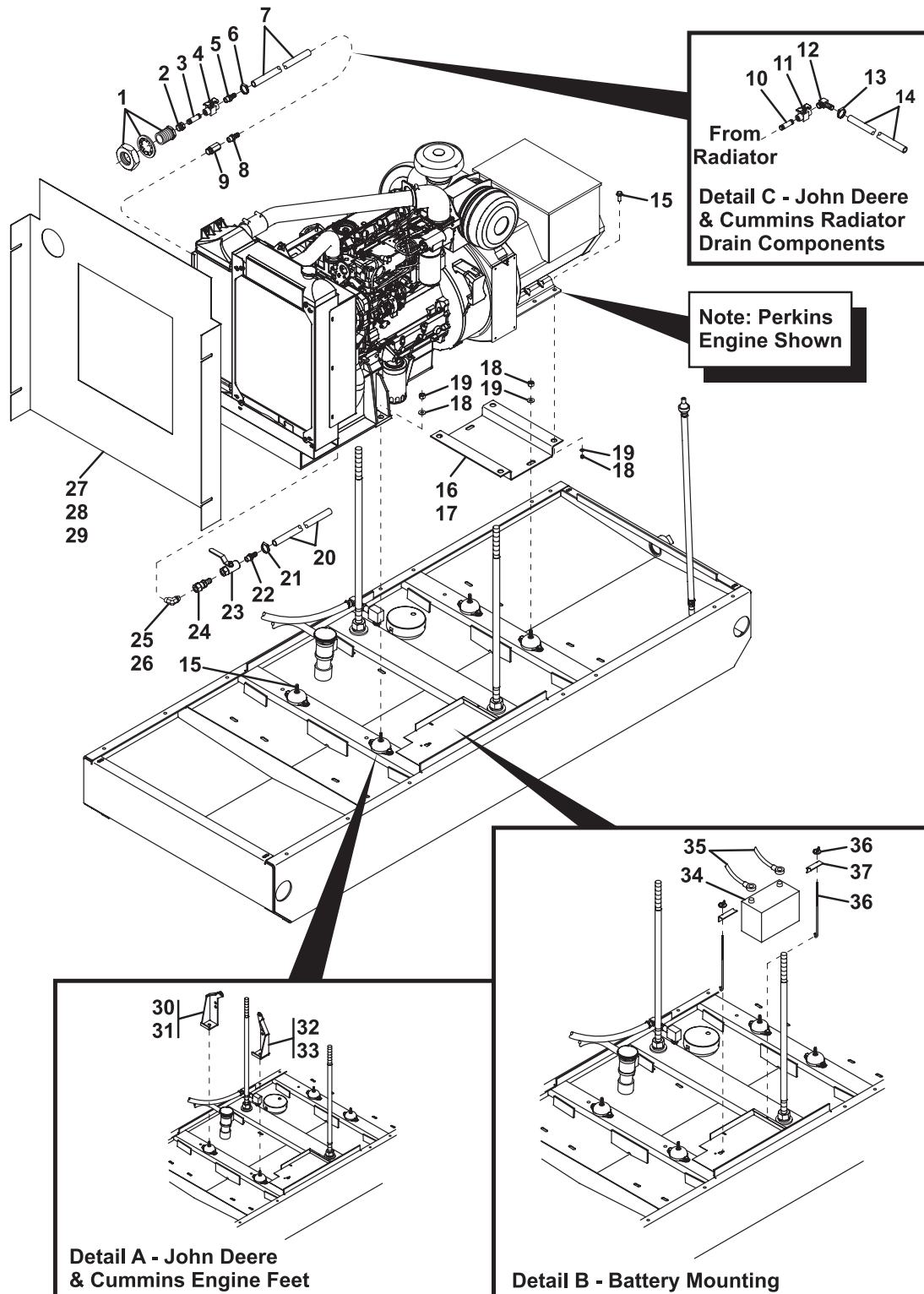
FIGURE 7-A

ITEM #	PART #	DESCRIPTION	QTY.
1	C91100700	HOSE, FUEL, 3/8"	AR
2	890790	HOSE, FUEL, 1/4 X 1/2, 200#	AR
3	792750	CLAMP, 7/16 TO 25/32	6
4	C90200600	BARB, 3/8" X 1/4" NPT	1
5	C90200250	BARB, 1/4" MNPT	1
6	C90200400	FITTING, PICKUP & RETURN	2
7	895775	PIPE NIPPLE 2X3	1
8	C90500850	COUPLING, PIPE, 2" NPT	1
9	796151	FUEL CAP FOR GENERATORS	1
10	C91100300	NYLON TUBING	1
11	C91100700	HOSE, FUEL, 3/8"	1
12	792750	CLAMP, 7/16 TO 25/32	6
13	C90200600	BARB, 3/8" X 1/4" NPT	1
14	896781	VALVE, CHECK	1
15	C90500800	COUPLING, PIPE, 1/4" HEX, BRASS, NPTF	1
16	C51600800	NUT, CLIP, 1/4"-20 X 3/4"	3
17	186695	FUEL SENDER RING CAP	1
18	684070	CORD GRIPS	1
19	993440	SCREW 1/4-20NCX3/4 HHC GRADE 2 ZP	3
20	C43200601	SENDER, FUEL LEVEL, VDO	1
21	WITH ITEM 20		1
22	895371	VALVE, VACCUUM RELIEF	1
23	792750	CLAMP, 7/16 TO 25/32	2
24	890790	HOSE, FUEL, 1/4 X 1/2, 200#	4
25	C91001300	FITTING, BARB, 3/8" NPT, 1/4" HB	1
26	NPN		1
27	CF21A050	ROD, LIFTING, 1.25" X 45"	2
28	C36564	NUT, 1.25" - 7	6
29	C33640	WASHER, LOCK, 1.25"	6
30	C33026	WASHER, FLAT, 1.25", ZP	6
31	C54200700	SCREW, 1/2"-13 X 1" Z G5	8
32	991650	WASHER, LOCK 1/2"	8
33	C33600200	MOUNT VIBRATION, GREEN 40 DURO	4
34	C74954	SCREW, HEX, 1/2"-13 X 2.5"	1
35	995970	WASHER, LOCK STAR, 1/2 EXT.TOOTH, S/S	1
36	C75240	LOCK WASHER, 1/2 SBZ	2
37	C74967	HEX NUT, 1/2 - 13, SBZ	2
38	C74972	FLAT WASHER, 1/2 SBZ	2
39	CF22F000	BASE, GENERATOR, T70-T80, JOHN DEERE OR PERKINS	1
40	CF22C000	BASE, GENERATOR, T70, CUMMINS	1

Figure 7-B

Base Components

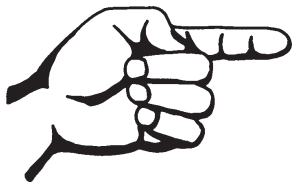
REV A





REV A

ITEM #	PART #	DESCRIPTION	QTY.
1	C90202200	FITTING,BULK HEAD,1/2"	1
2	C90700800	ADAPTER,1/2"X1/4"	1
3	C90400900	NIPPLE,PIPE,1/4"X1.5"	1
4	C90800200	VALVE,NEEDLE	1
5	C90200600	BARB,3/8"X1/4"NPT	1
6	792750	CLAMP 7/16 TO 25/32	1
7	C91100700	HOSE,FUEL,3/8"	4
8	898523	ADAPTER,1/4BSPP X 1/4NPT	1
9	C90200300	BARB,3/8"X1/4"NPT,90 DEGREE	1
10	C90400900	NIPPLE,PIPE,1/4"X1.5"	1
11	C90800200	VALVE,NEEDLE	1
12	C90200300	BARB,3/8"X1/4"NPT,90 DEGREE	1
13	792750	CLAMP 7/16 TO 25/32	1
14	C91100700	HOSE,FUEL,3/8"	4
15	C77209	SCREW,HEX,1/2"X1.5,S/S	4
16	CF32P010	GENERATOR HAT CHANNEL, T-70P	1
17	184995	GENERATOR HAT CHANNEL, T-70C	1
18	990210	WASHER FLAT 1/2	8
19	990200	NUT LOCK NYLON INSERT 1/2-13NC GR 2 ZPIN	4
20	C91104400	HOSE,OIL DRAIN,3/4"	3
21	C90101500	CLAMP,9/16" X 1-1/16"	1
22	C90200900	BARB,3/4"X1/2"NPT	1
23	C90800100	VALVE,BALL,1/2"	1
24	C90701000	FITTING,SWIVEL	1
25	898421	FITTING,STR TRD,ELBOW	1
26	898521	FITTING,ELBOW	1
27	CP34A020	BULKHEAD, AIR, 60KW, PERKINS	1
28	CF34K020	BULKHEAD, AIR, 60KW, JOHN DEERE	1
29	CF34K025	BULKHEAD, AIR, 60KW, CUMMINS	1
30	CF31F010	FOOT, ENGINE, RIGHT, 60KW, JOHN DEERE	1
31	CF31F015	FOOT, ENGINE, RIGHT, 60KW, CUMMINS	1
32	CF31F020	FOOT, ENGINE, LEFT, 60KW, JOHN DEERE	1
33	CF31F025	FOOT, ENGINE, LEFT, 60KW CUMMINS	1
34	261251	BATTERY, WET, 12V, GR31, 1000 CCA, DEEP-CYCLE, LA	1
35	160273	BATTERY CABLE SET 54, 4GA MBT TERM P&N R&B	1
36	C33700800	HOOK, BATTERY HOLD DN, (PAIR)	1
37	CU22A251	ANGLE, BATTERY HOLD-DOWN,	1



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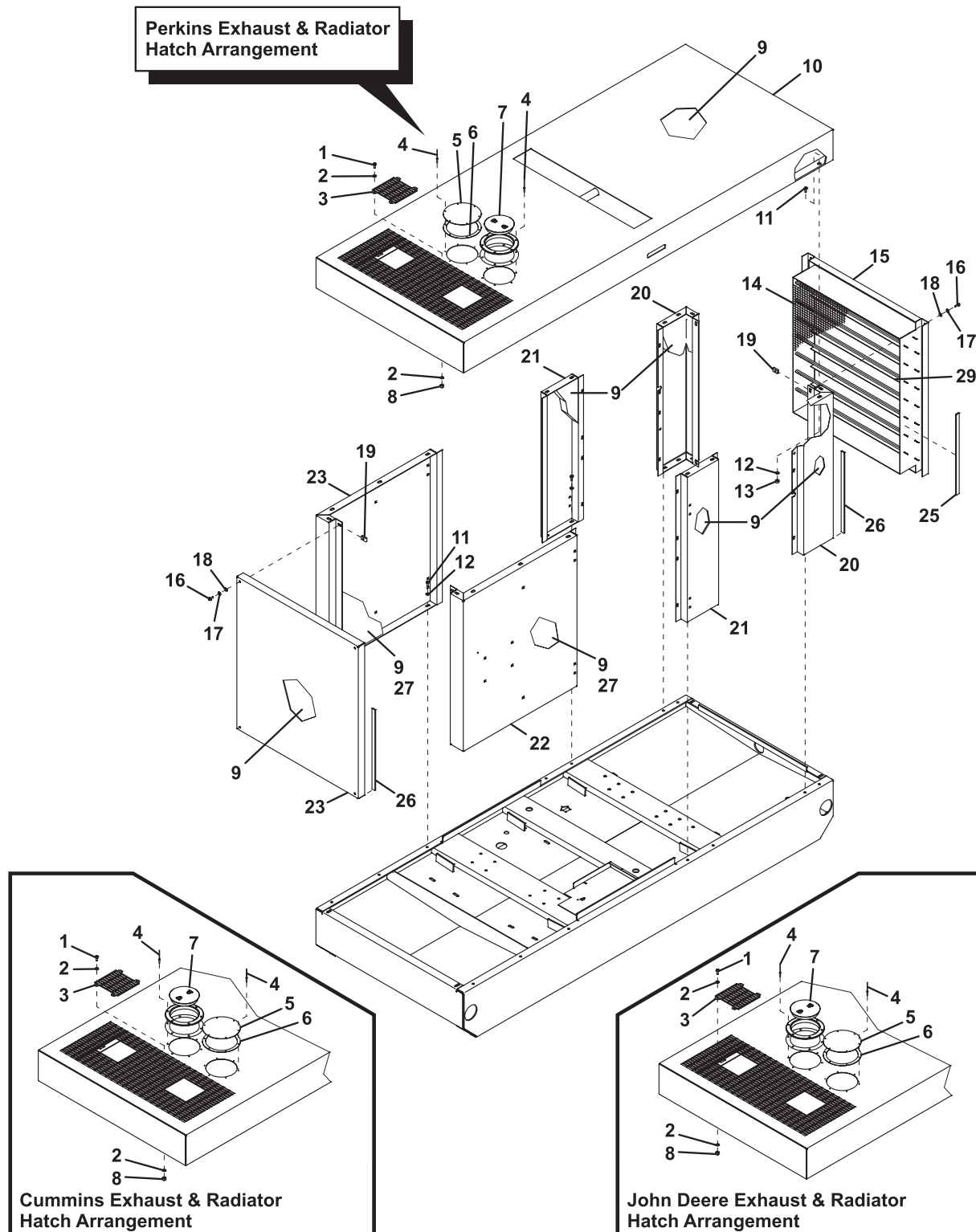
Section Eight

Cabinet Components

Figure 8-A

REV A

Cabinet Components - Panels





REV A

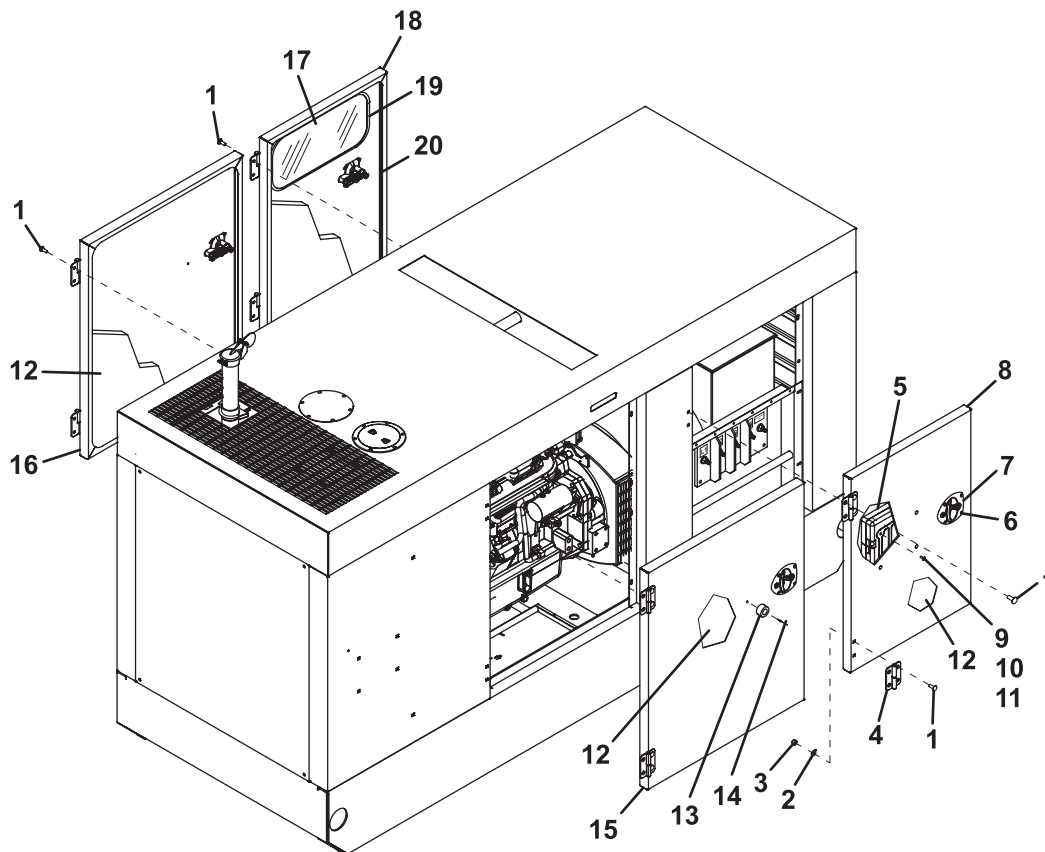
FIGURE 8-A

ITEM #	PART #	DESCRIPTION	QTY
1	993422	SCREW FLNGE 1/4-20X.75	4
2	C71014	FLAT WASHER 11/16" OD	8
3	CF59T019	EXHAUST HOLE COVER	1
4	990670	RIVET POP 3/16X1/2 S/S BLIND RIVET	12
5	CU59T019	COVER, DECKPLATE	1
6	720440	WEATHERSTRIP ADHESIVE 1/8 THICK X 1/2 WIDE	AR
7	669174	PLATE,DECK,SCREW-OUT	1
8	990150	NUT LOCK NYLON INSERT 1/4-20NC GR 2 ZP	4
9	C71100500	FOAM BLK URETHANE 1 INCH	AR
10	CF59T000	HOUSING TOP PANEL	1
11	C51601570	SCREW,FLANGE,3/8" X 3/4", PATCH	AR
12	C54300600	WASHER, FLAT, 3/8",Z	AR
13	C51601462	NUT, FLANGE, 3/8"-16 Z	AR
14	CF58T043	EXPANDED LOUVER MESH	1
15	CF58T036	LOUVER ASSEMBLY F-SERIES EXPANDED	1
16	981605	SCREW,3/8-16NCX3, HHCS,GR 5,ZP	8
17	990470	WASHER LOCK 3/8	8
18	981120	WASHER FLAT 3/8	8
19	C51600600	NUT,CLIP,3/8"-16X3/4"	8
20	CF52T020	HOUSING REAR CNR L&R	2
21	CF57T010	HOUSING DOOR STOP	2
22	CF52T030	HOUSING LT FRNT CNR	1
23	CF58T010	HOUSING FRONT PANEL	1
24	CF52T010	HOUSING RT FRNT CNR	1
25	720440	WEATHERSTRIP ADHESIVE 1/8 THICK X 1/2 WIDE	AR
26	C72100400	WEATHER STRIP 3/8X3/4	AR
27	GUU401000	1.5 INSULATIO MELAMINE FOIL BAKED	AR
28	C71100200	FOAM BLK URETHANE 1/2	AR

Figure 8-B

Cabinet Components - Doors

REV A

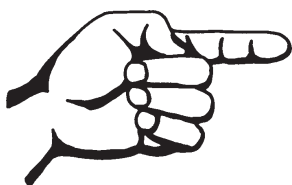




REV B

FIGURE 8-B

ITEM #	PART #	DESCRIPTION	QTY.
1	995701	SCREW, FHSC 1/4-20 X 1, BLACK	32
2	990080	WASHER, FLAT, 3/8	32
3	C37014	NUT, NYLOCK, 10-24, Z	32
4	794891	HINGE, LIFT-OFF, STEEL, BLACK	4
5	C53200100	LITERATURE BOX, BLACK PLASTIC	1
6	C51200000	LATCH, BLACK, KEY LOCK, ADJ T-HANDLE	4
7	993360	RIVET, POP, 3/16 X 3/4 ALUM 3/8 - 1/2 GR	16
8	CF54T011	HOUSING DOOR, DISTRIBUTION	1
9	C74419	SCREW, CARRIAGE, 1/4-20 X .75 STAINLESS STEEL	4
10	C71014	FLAT WASHER, 11/16" OD	4
11	990150	NUT, LOCK NYLON INSERT, 1/4-20 NC,GR 2, ZP	4
12	C71100500	FOAM, BLACK URETHANE, 1"	AR
13	C51400200	RUBBER DOOR STOP W/WASHER	2
14	C41135000	RIVET, POP, 1/4" X 1/2"	2
15	CF54T044	HOUSING DOOR, ACCESS, LEFT	1
16	CF54T054	HOUSING DOOR, ACCESS, RIGHT	1
17	CU54T021	WINDOW, CONTROL DOOR	1
18	CF54T021	HOUSING DOOR, CONTROL	1
19	C74100100	GASKET, WINDOW, CONTROL DOOR	AR
20	GUU401100	TRIMLOCK SEAL, 7/16", BLACK FINE PEBBLE	AR
21	833022	KEY	2



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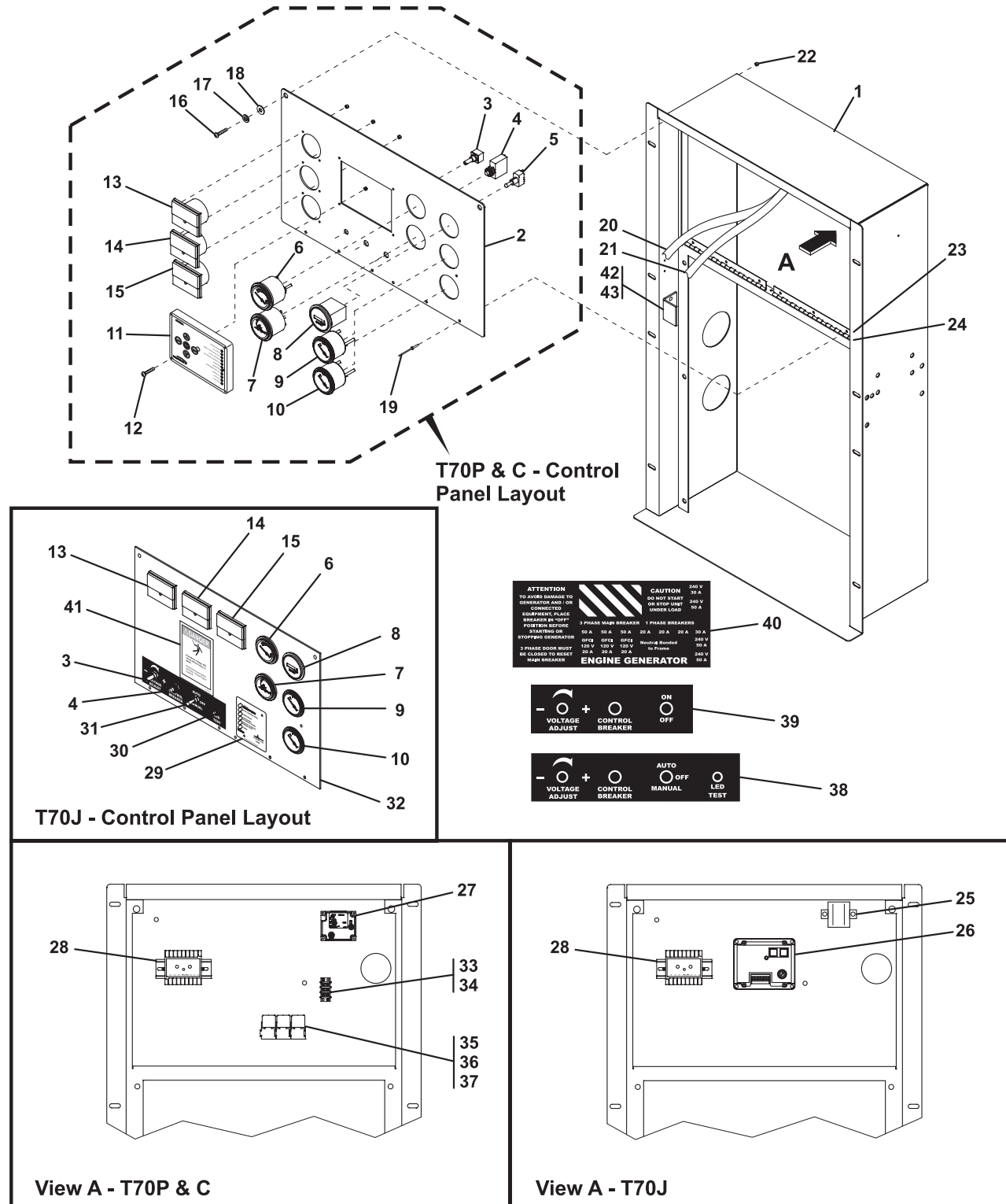


Control Box Components

Figure 9-A

REV B

Control Panel - Upper T70P, T70C & T70J





REV B

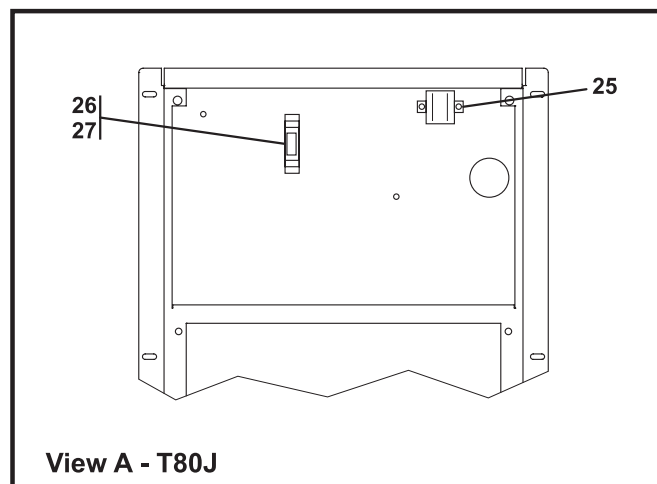
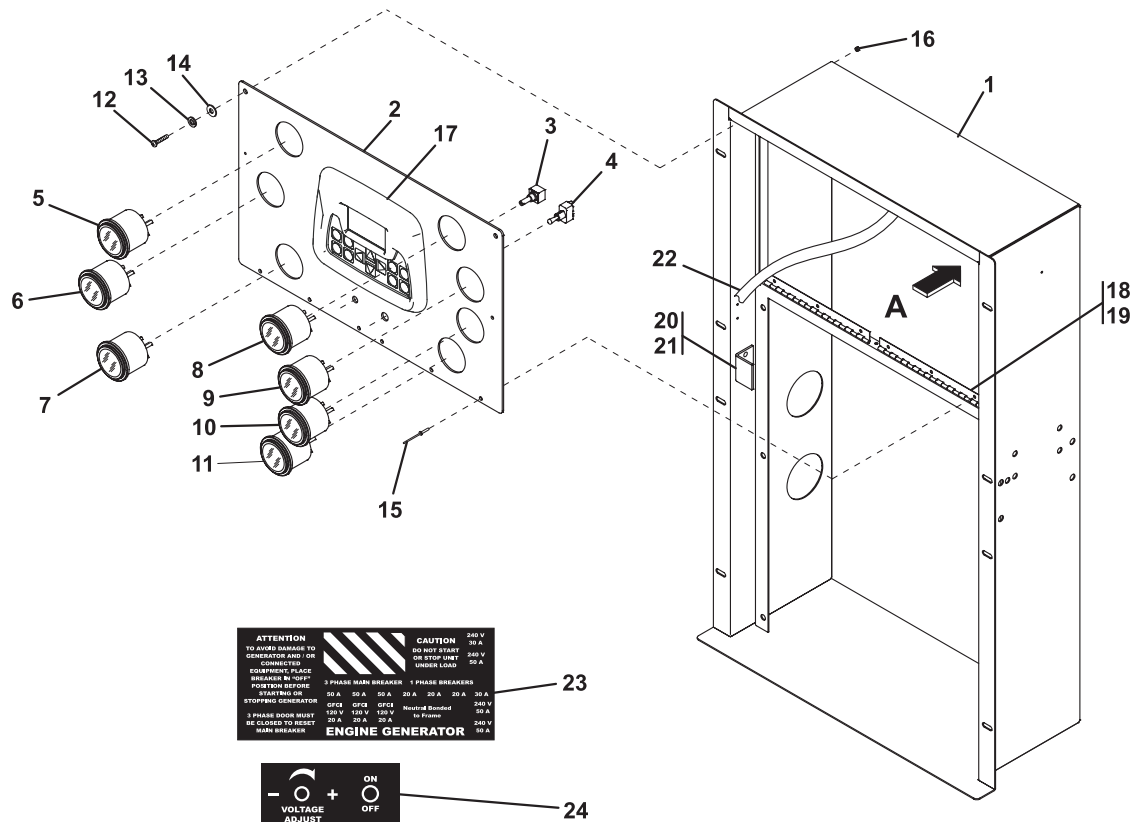
FIGURE 9-A

ITEM #	PART #	DESCRIPTION	QTY.
1	CF42T010	CONTROL PAN ASSEMBLY	1
2	CU42Q032	CONTROL PANEL, CASCADE	1
3	C42200500	POTENTIOMETER, VOLTAGE ADJUSTMENT	1
4	682070	BREAKER, MINI, 1P, 15A	1
5	C42208400	SWITCH,,TOGGLE, SINGLE THROW	1
6	C43100800	GAUGE, DC VOLT	1
7	C43200400	GAUGE, OIL PRESSURE	1
8	260360	HOURMETER, 12V DC	1
9	C43200300	GAUGE,,WATER TEMP,,12V	1
10	C43200600	GAUGE,,FUEL	1
11	261341	CASCADE CONTROLLER	1
12		INCLUDED IN ITEM 11	
13	C43100600	METER, VOLT	1
14	C43100400	METER, FREQUENCY	1
15	C43101000	METER, AMP, 0-200	1
16	R980195	SCREW, 1/4-20NC X 3/4"	6
17	990400	WASHER, LOCK 1/4"	6
18	981745	WASHER, FLAT, 1/4"	6
19	992040	RIVET, POP, 3/16 X .602	10
20	CB45A112	HARNESS, AC CONTROL PANEL	1
21	CU45A100	HARNESS, CONTROL, UNIVERSAL	1
22	C51600800	NUT, CLIP, 1/4"-20 X 3/4"	6
23	C51200201	HINGE, PIANO, 9", SS	1
24	CU43A050	PLASTIC 1/8" X 10.5" X 33"	1
25	C42400700	SOLENOID	1
26	C33203000	CONTROLLER, ELECTRONIC GOVERNOR, DPG2104	1
27	742356	CONTROLLER, BC 10784	1
28	C42401700	RELAY, OVER CURRENT	1
29	C42400810	SHUTDOWN, DYNAGEN, ECU-ES52	1
30	686747	SWITCH, SPST MOMENTARY	1
31	C42202900	SWITCH, TOGGLE, SPDT, ON-OFF-ON	1
32	CU42Q031	CONTROL PANEL DYNAGEN	1
33	C42404000	TERMINAL STRIP, 6 POS	1
34	R660115	JUMPER TERMINAL STRIP	1
35	CDWV40150	RELAY, 50A, BOSCH	3
36	CDWV40151	RELAY BASE, 50A, BOSCH	3
37	CDWV40152	RELAY PIN	12
38	853810	DECAL: CONTROL PANEL, DYNA-TIER	1
39	853838	DECAL: CONTROL PANEL, CASCADE	1
40	853813	DECAL: KIT-RECEPTACLES	1
41	CU51A122	DECAL: HIGH VOLTAGE	1
42	CU42T070	BRACKET, LATCH	1
43	C51601550	SCREW, SELF-TAPPING, #10	2

Figure 9-B

Control Panel - Upper T80J

REV A





REV A

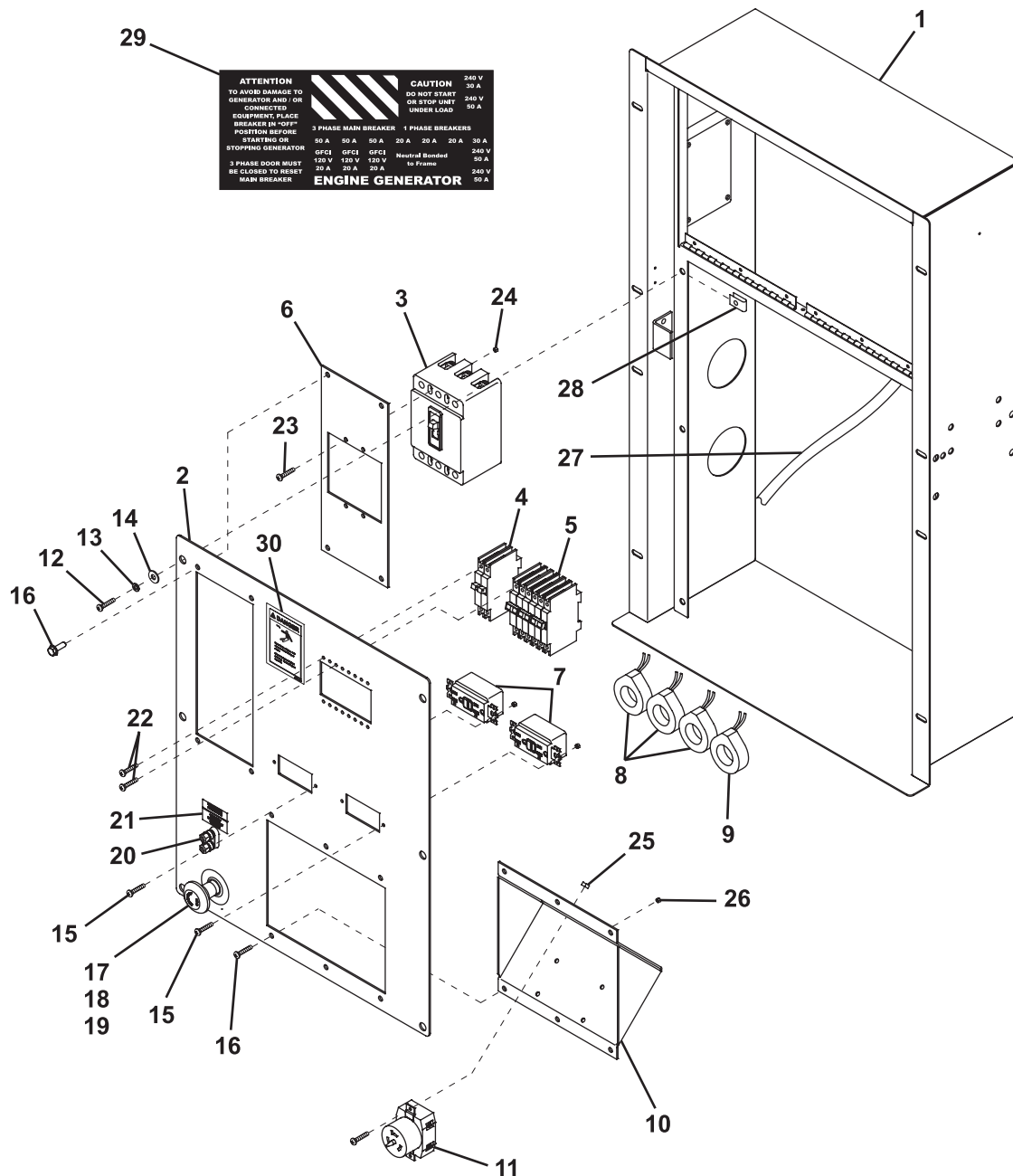
FIGURE 9-B

ITEM #	PART #	DESCRIPTION	QTY.
1	CF42T010	CONTROL PAN ASSY	1
2	CU42S031	CONTROL PANEL, IGUARD	1
3	C42200500	POTENTIOMETER, VOLTAGE	1
4	C42208400	SWITCH, TOGGLE, SINGLE THROW	1
5	261308	GAUGE AC FREQ. 40-80 HZ	1
6	261328	GAUGE 600VAC VOLT METER	1
7	261314	AC AMP METER 0-600	1
8	261307	GAUGE 24VDC, 0-24VDC	1
9	261313	GAUGE FUEL 0-100%	1
10	261309	GAUGE OIL PRESSURE	1
11	261312	GAUGE COOLANT TEMP	1
12	R980195	SCREW, 1/4-20NCX3/4 BUTTON HEAD, 18-8 S/S	2
13	990400	WASHER LOCK 1/4	2
14	981745	WASHER, FLAT, 1/4"	2
15	992040	RIVET POP 3/16X.602	10
16	C51600800	NUT, CLIP, 1/4"-20X3/4"	2
17	261305	CONTROLLER, IGUARD, 600A	1
18	C51200201	HINGE, PIANO, 9", SS	1
19	CU43A050	PLASTIC, ABS, 1/8"X 10.5"X33"	1
20	C51601550	SCREW, SELF-TAPPING, #10, X 3/4"	2
21	CU42T070	BRACKET, LATCH	1
22	220370	WIRE HARNESS	1
23	853813	DECAL: KIT-RECEPTACLES, BREAKERS	1
24	853815	DECAL: CONTROL PANEL	1
25	C42400700	SOLENOID - STARTER & GLOWPLUGS	1
26	R661493	120V RELAY	1
27	R661494	120V RELAY BASE	1

Figure 9-C

REV A

Control Panel - Lower T70P, T70C & T70 J





REV A

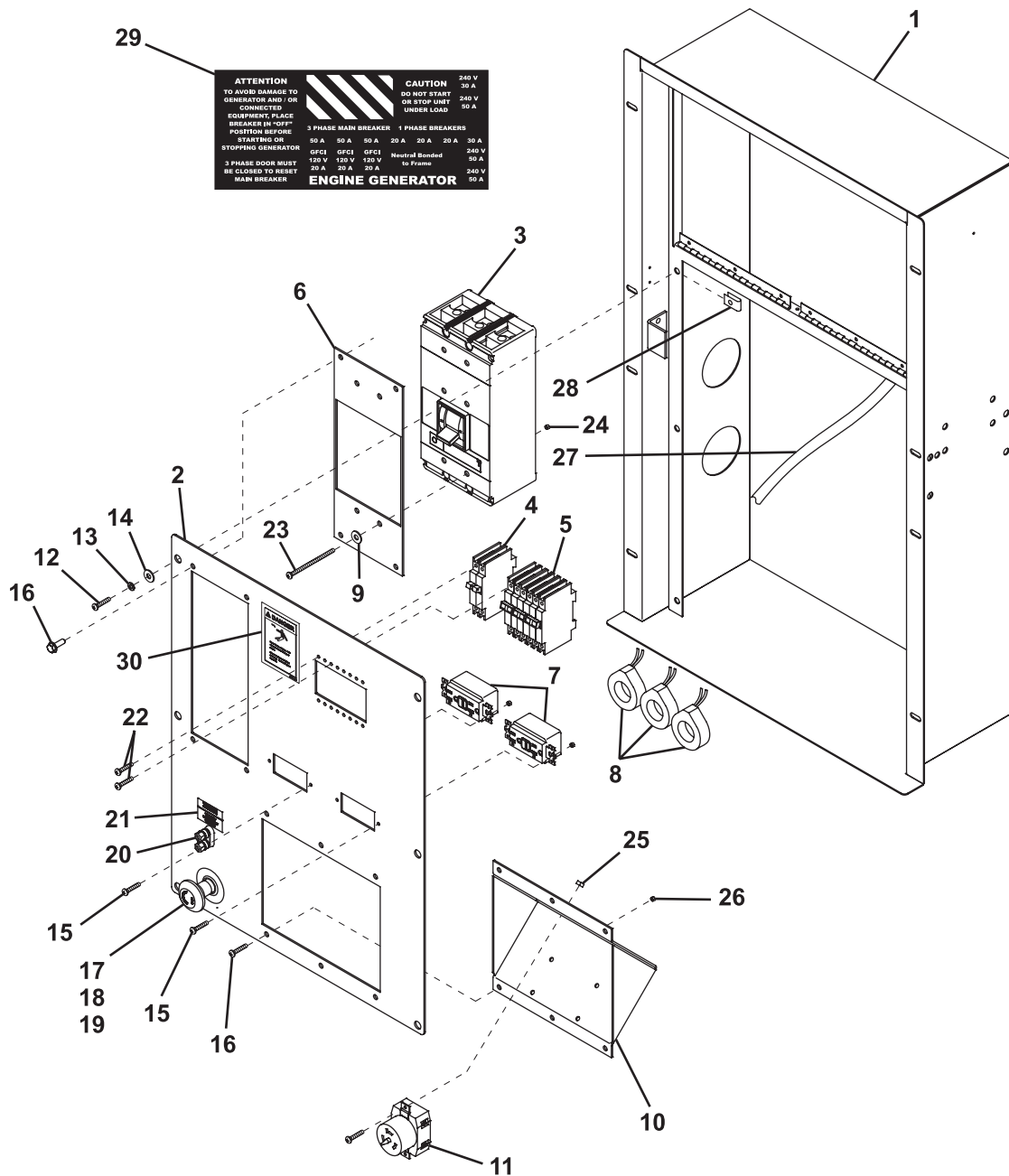
FIGURE 9-C

ITEM #	PART #	DESCRIPTION	QTY.
1	CF42T010	CONTROL PAN ASSY	1
2	CF41F020	PANEL 1PH,60-70KW	1
3	C42104900	BREAKER,225A,SHUNTTRIP, 240VAC, - 12VDC	1
4	C42103400	BREAKER,20A,120/240V	2
5	C42103600	BREAKER,50A,120/240V	3
6	CF41F040	BREAKER MNT PLATE	1
7	684640	RECEPTACLE 20A 120V DUPLEX W/GFI	2
8	C42500100	TRANSFORMER,100:5	3
9	C42500200	TRANSFORMER,200:5	1
10	CF41T031	TEMP POWER SLOPE	1
11	C47100300	RECEPTACLE,TWISTLOCK	3
12	R980195	SCREW,1/4-20NCX3/4	20
13	990400	WASHER LOCK 1/4	16
14	981745	WASHER,FLAT,1/4"	16
15	C54400100	SCREW, SET, 8-32X1/2"	10
16	C51601442	SCREW,FLANGE,1/4"-20	6
17	66812	E-STOP, PUSH BUTTON	1
18	66817	EMERGENCY STOP, BASE	1
19	686662	EMERGENCY STOP, FACE PLATE	1
20	671278	BINDING POST FOR REMOTE START	1
21	853752	DECAL: REMOTE START CN	1
22	C73716	SCREW,#6-32X1/2"	16
23	C27514	SCREW,#10-24X3" Z KEG	4
24	C37810	NUT,COUPLER,#10-24X3/4	4
25	R980900	NUT,LOCK NYLON INSERT #8-32NF	10
26	990150	NUT LOCK NYLON INSERT, 1/4-20	6
27	CU45A010	HARNESS,AC/GEN	1
28	C51600800	NUT,CLIP,1/4"-20X3/4"	16
29	853813	DECAL: KIT-RECEPTACLES	1
30	CU51A122	DECAL: HIGH VOLTAGE	1

Figure 9-D

Control Panel - Lower T80J

REV A

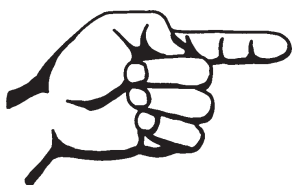




REV A

FIGURE 9-D

ITEM #	PART #	DESCRIPTION	QTY.
1	CF42T010	CONTROL PAN ASSEMBLY	1
2	CF41F020	PANEL, 1PH, 60-70KW	1
3	C42105000	BREAKER, 250A, SHUNTTRIP, 240VAC, 12VDC	1
4	C42103400	BREAKER, 20A, 120/240V	2
5	C42103600	BREAKER, 50A, 120/240V	3
6	CU41T041	BREAKER MOUNT PLATE	1
7	684640	RECEPTACLE, 20A, 120V, DUPLEX W/GFI	2
8	C42501200	TRANSFORMER, 400:5	3
9	981745	WASHER, FLAT, 1/4"	1
10	CF41T031	TEMP POWER SLOPE	1
11	C47100300	RECEPTACLE, TWISTLOCK	3
12	R980195	SCREW, 1/4-20NC X 3/4"	20
13	990400	WASHER, LOCK 1/4"	16
14	981745	WASHER, FLAT, 1/4"	16
15	C54400100	SCREW, SET, 8-32 X 1/2"	10
16	C51601442	SCREW, FLANGE, 1/4"-20	6
17	66812	E-STOP, PUSH BUTTON	1
18	66817	EMERGENCY STOP, BASE	1
19	686662	EMERGENCY STOP, FACE PLATE	1
20	671278	BINDING POST FOR REMOTE START	1
21	853752	DECAL: REMOTE START CN	1
22	C73716	SCREW, #6-32 X 1/2"	16
23	C13023	SCREW, 1/4-20NC X 5 HHC, GRADE 5, ZP	4
24	990150	NUT, LOCK NYLON INSERT, 1/4-20NC, GR 2, ZP	4
25	R980900	NUT, LOCK NYLON INSERT, #8-32NF	10
26	990150	NUT, LOCK NYLON INSERT, 1/4-20	6
27	220370	WIRE HARNESS	1
28	C51600800	NUT, CLIP, 1/4"-20 X 3/4"	16
29	853813	DECAL: KIT-RECEPTACLES	1
30	CU51A122	DECAL: HIGH VOLTAGE	1



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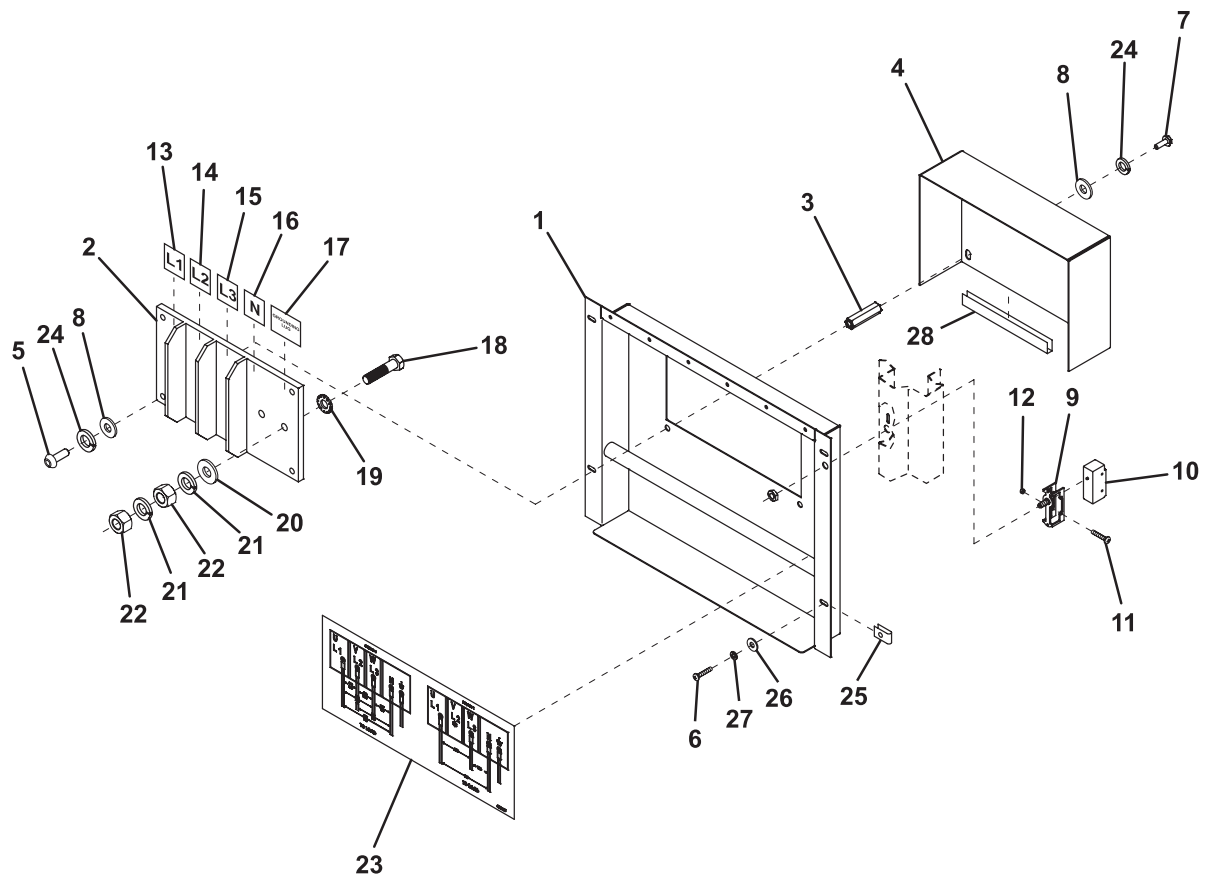
Distribution Panel



Figure 10-A

Distribution Panel

REV A





REV B

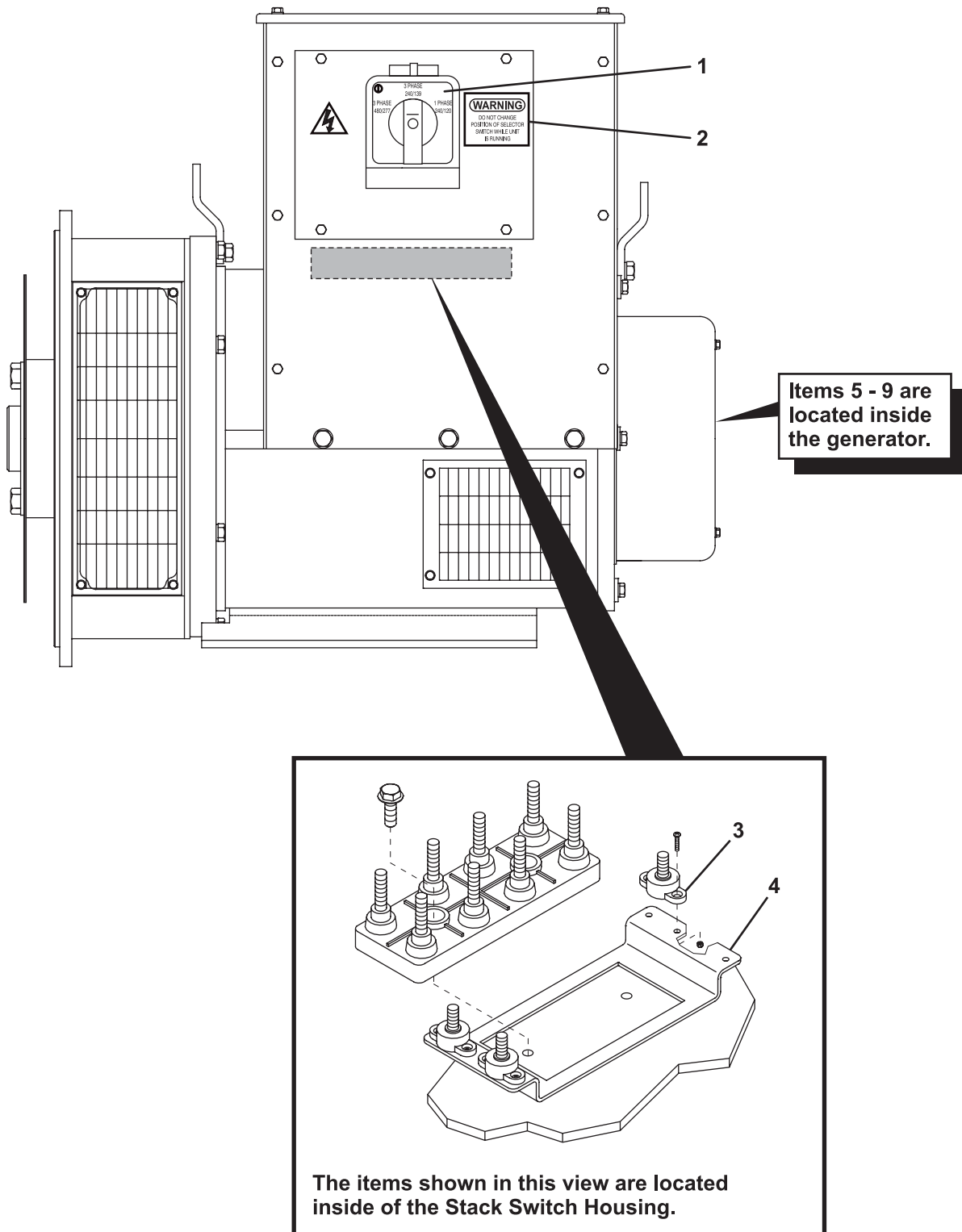
FIGURE 10-A

ITEM #	PART #	DESCRIPTION	QTY.
1	CU43T020	PANEL, 3PH DISTRIBUTION	1
2	CU43A041	DISTRIBUTION LUG PANEL	1
3	C37819	NUT, COUPLER, 3/8"-16	4
4	CF44T045	DISTRIBUTION LUG COVER	1
5	C94903	SCREW, 3/8-16 X 1 1/4Z	4
6	R980195	SCREW, 1/4-20NC X 3/4 BUTTON HEAD, 18-8, S/S	4
7	990580	SCREW, 3/8-16NC X 3-1/2 HHC, GRADE 5, ZP	4
8	990080	WASHER, FLAT, 3/8"	4
9	C42200702	PLUNGER (ACTUATOR)	1
10	C42200701	SWITCH, SNAP-ACTION	1
11		INCLUDED IN ITEM 9	
12		INCLUDED IN ITEM 9	
13	CU51A400	DECAL: L1, L2, L3, N	1
14		INCLUDED IN ITEM 13	
15		INCLUDED IN ITEM 13	
16		INCLUDED IN ITEM 13	
17	851820	DECAL: SYMBOL FOR GROUND	1
18	C74954	SCREW, HEX, 1/2"-13 X 2.5"	5
19	995970	WASHER, LOCK STAR, 1/2"	5
20	C74972	FLAT, WASHER, 1/2" SBZ	5
21	C75240	LOCK, WASHER, 1/2" SBZ	10
22	C74967	HEX NUT, 1/2-13, SBZ	10
23	852255	DECAL: 3PH DISTRIBUTION PANEL	1
24	990470	WASHER, LOCK, 3/8"	8
25	C51600800	NUT, CLIP, 1/4"-20 X 3/4"	4
26	990400	WASHER, LOCK, 1/4"	4
27	981745	WASHER, FLAT, 1/4"	4
28	C73000100	TRIM LOCK, 1/4"	2

Figure 10-B

Generator & Generator Parts

REV A

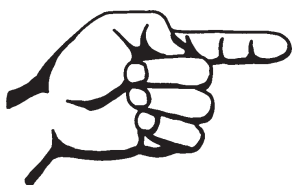




REV A

FIGURE 10-B

ITEM #	PART #	DESCRIPTION	QTY.
1	C43304002	VOLTAGE SELECTOR SWITCH	1
2	CL-008	DECAL, DO NOT CHANGE POSITION	1
3	630100	GENERATOR POST TERM. ISOLATOR STUD	3
4	124105	BRACKET, GENERATOR ISOLATOR POST	1
5	836427	RECTIFIER SERVICE KIT, RSK1001	1
6	836424	FORWARD DIODE PLATE, 130-1413	1
7	836425	REVERSE DIODE PLATE, 130-1414	1
8	836426	VARISTOR, 073-08063	1
9	CMX341	AUTOMATIC VOLTAGE REGULATOR	1
10	830005	NEWAGE, UCH-027, OPERATION MANUAL, UCI	1



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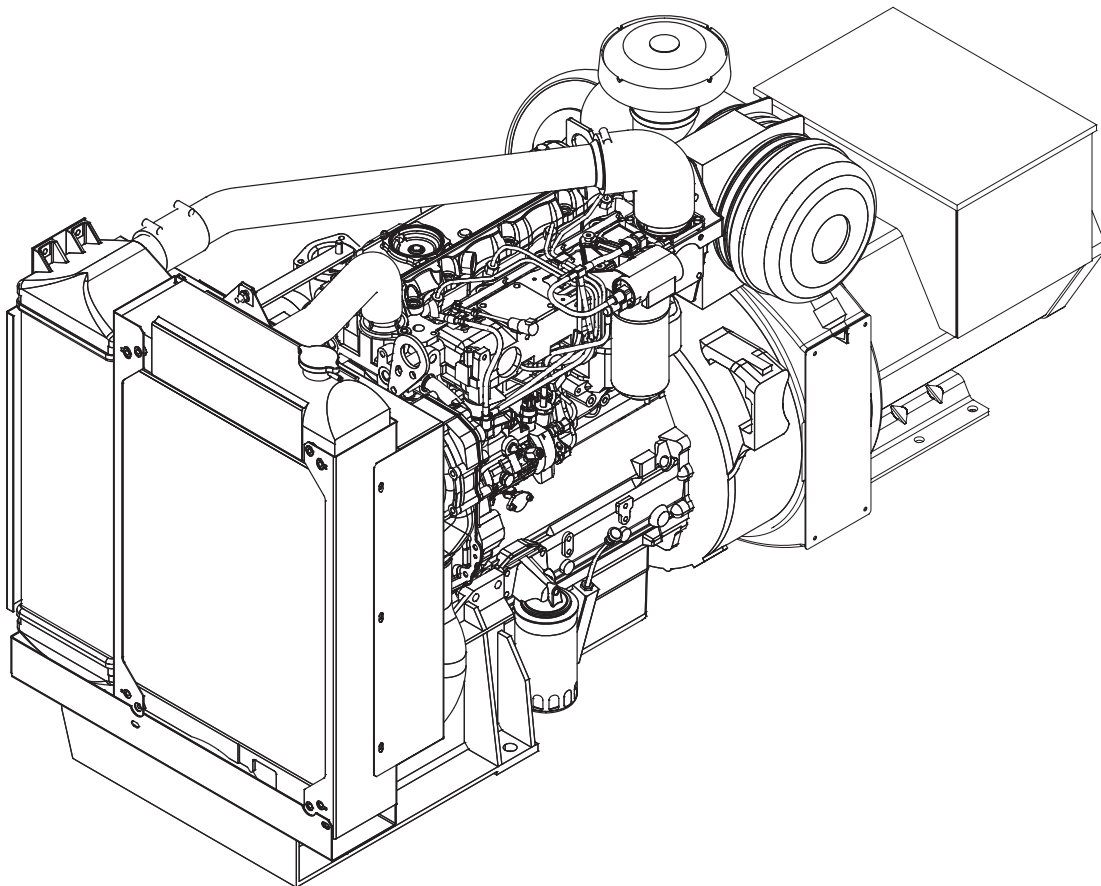
Section Eleven

Engine & Genset Components



Figure 11-A

REV A

Engine Genset Assembly - Perkins 1104C-44TG1 - T70P



REV A

FIGURE 11-A

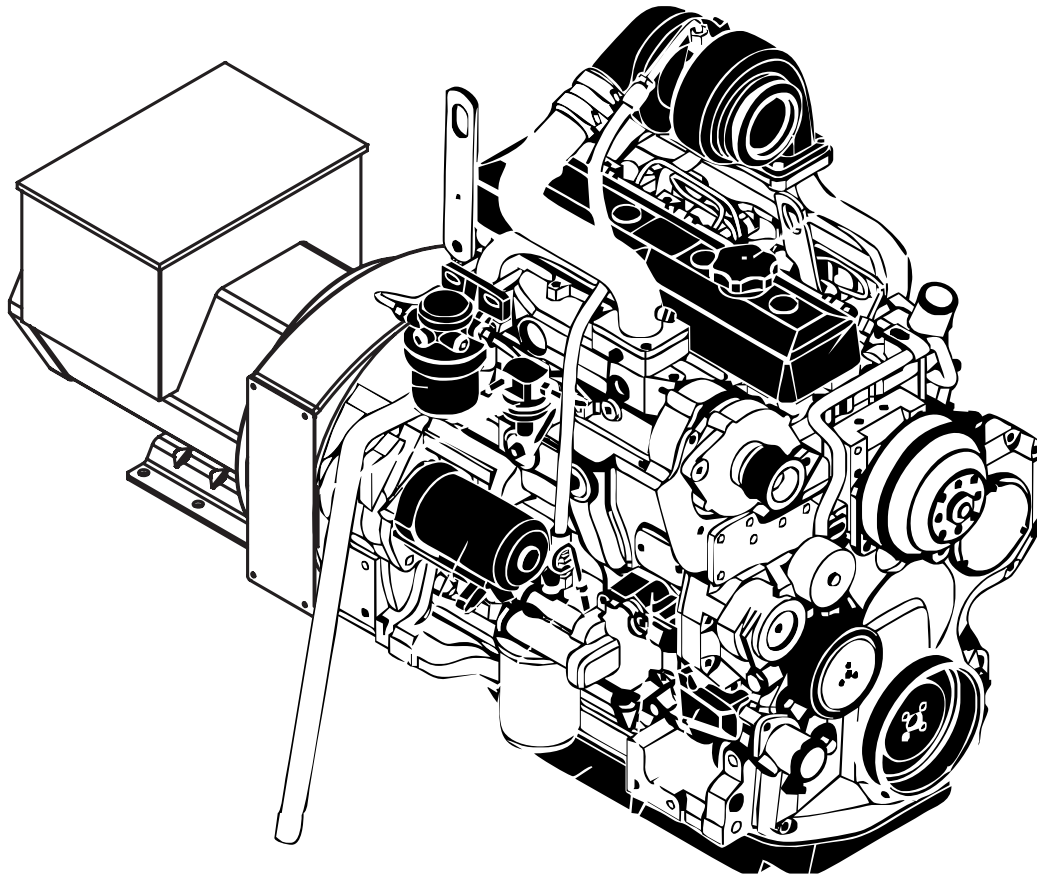
ITEM #	PART #	DESCRIPTION	QTY.
1	116835	ENGINE & GENERATOR ASSEMBLY, T70P	1
2	732267PP	ENGINE, 1104C.44TG1	1
3	630942	GENERATOR, NEWAGE, W/PMG, UCI224E1L73D	1
4	800001	HARNESS, PERKINS ENGINE	1
5	C42300100	SWITCH, LOW OIL PRESSURE	1
6	C42300400	SENDER, LOW OIL PRESSURE	1
7	C42300500	SWITCH, W/SENDER, WATER TEMP, DOUBLE PRONG	1
8	C42300600	MAG PICKUP WITH 6' CABLE	1
9	C90700500	ADAPTER, MAG PICKUP	1
10	C91100700	FUEL HOSE 3/8"	1
11	866071	AIR CLEANER ASSEMBLY	1
12	741925	FILTER, PRIMARY	1
13	741924	FILTER, SECONDARY	1
14	741921	OIL FILTER	1
15	741923	FUEL FILTER	1
16	866054	BELT	1
17	866064	WATER SEPARATOR	1
18	866062	RADIATOR HOSE, UPPER	1
19	866063	RADIATOR HOSE, LOWER	1



Figure 11-B

Engine Genset Assembly - John Deere 4045 TF270 - T70J

REV A





REV A

FIGURE 11-B

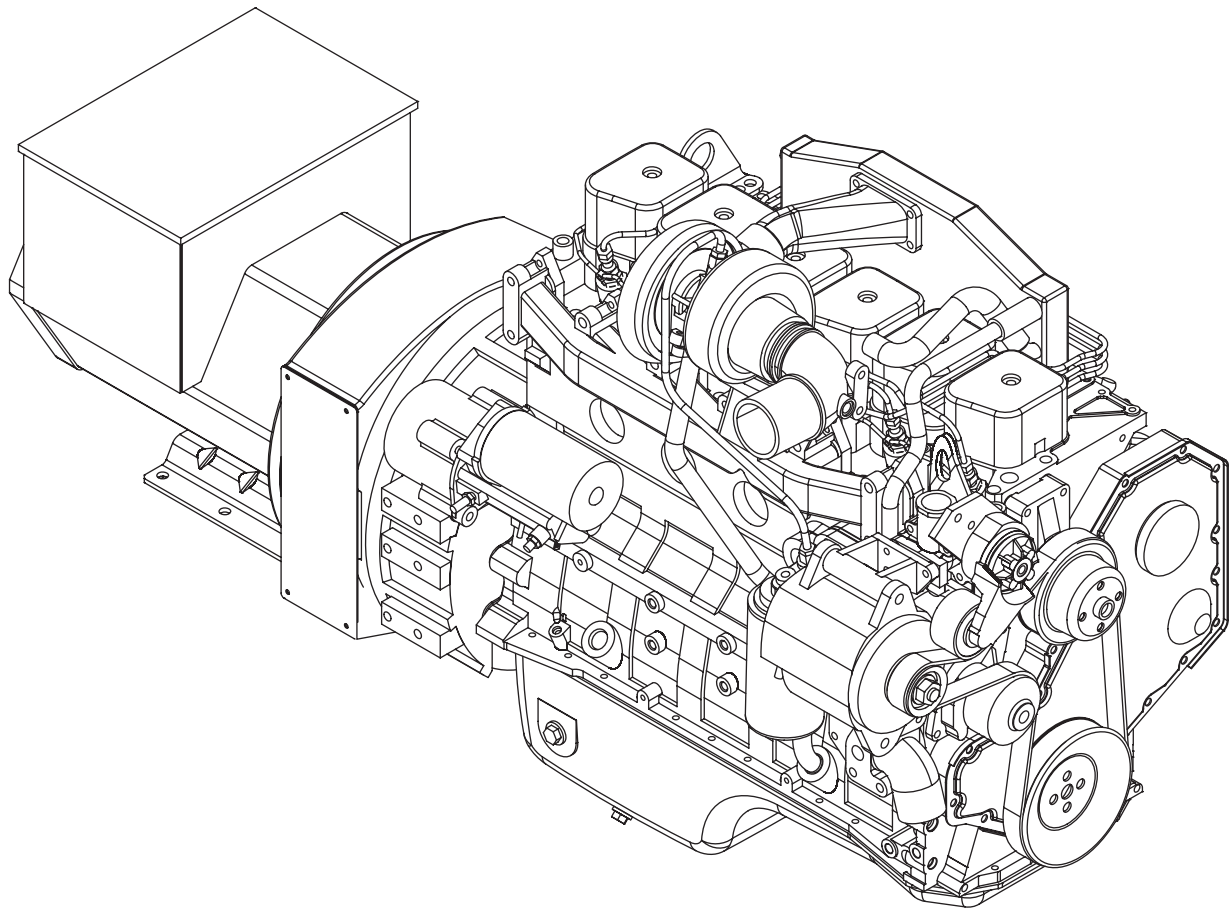
ITEM #	PART #	DESCRIPTION	QTY.
1	116854	ENGINE & GENERATOR ASSEMBLY, T70J	1
2	732122	ENGINE, 4045TF270	1
3	630942	GENERATOR, NEWAGE W/PMG, UCI224E1L73D	1
4	C33202900	ACTUATOR ELECTRONIC GOVERNOR	1
5	C42300100	SWITCH, LOW OIL PRESSURE	1
6	C42300400	SENDER, LOW OIL PRESSURE	1
7	C90700200	ADAPTER, LOP SENDER	1
8	C42301700	SWITCH, W/SENDER, WATER TEMP, 1/2" THREAD, VDO	1
9	C42300600	MAG PICKUP WITH 6' CABLE	1
10	C90700500	ADAPTER, MAG PICKUP	1
11	CU45A020	HARNESS, DC ENGINE	1
12	897920	HOSE, SPIRALITE 110, 3" ID, 3.5" OD GREEN	1
13	C33100501	AIR CLEANER ASSEMBLY	1
14	C33100502	FILTER, PRIMARY	1
15	C33100503	FILTER, SECONDARY	1
16	C91109800	ELBOW, RUBBER, 3" ID, 90 DEGREE	1
17	CF33T020	PIPE, AIR INTAKE, 90 DEGREE	1
18	791580	CLAMP	1
19	C33301800	RADIATOR	1
20	C33301201	FAN, BREEZA, 21"	1
21	CF34T030	FAN SHROUD	1
22	C3330160	FAN GUARD	1
23	C91111100	RADIATOR HOSE, UPPER	1
24	C91109600	RADIATOR HOSE, LOWER	1
25	741943	BELT	1
26	741916	FUEL FILTER	1
27	741940	WATER SEPARATOR	1
28	741915	OIL FILTER	1
29	C91100700	FUEL HOSE 3/8"	AR
30	890790	FUEL HOSE 1/4"	AR



Figure 11-C

REV A

Engine Genset Assembly - Cummins 4BT3.9-G5 - T70C





REV A

FIGURE 11-C

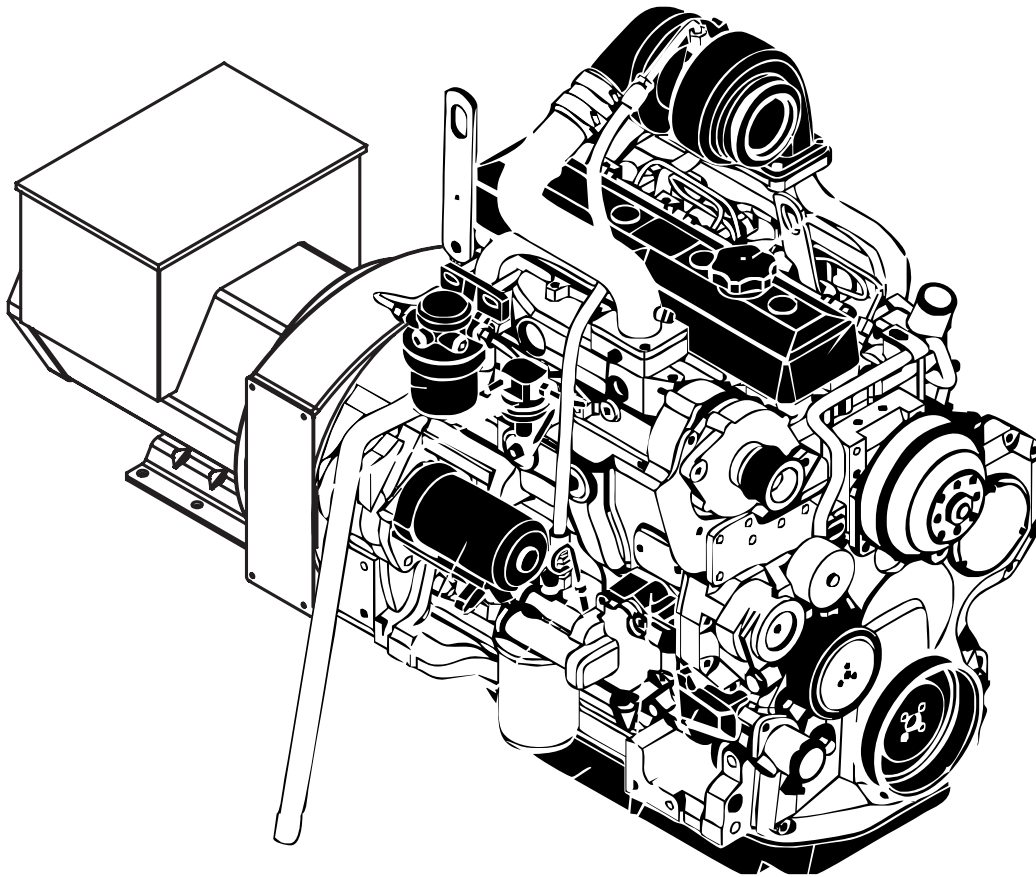
ITEM #	PART #	DESCRIPTION	QTY.
1	116825	ENGINE & GENERATOR ASSEMBLY, T70C	1
2	732109	ENGINE, 4BT3.9-G5	1
3	630958	GENERATOR, NEWAGE, UCI224E1L32D	1
4	184995	CHANNEL, GENERATOR MOUNT	1
5	CE31A090	SPACER, FAN, CUMMINS	1
6	C33100501	AIR CLEANER ASSEMBLY	1
7	C33100502	FILTER, PRIMARY	1
8	C33100503	FILTER SECONDARY	1
9	839061	FUEL FILTER	1
10	839062	OIL FILTER	1
11	C33200500	FILTER, FUEL, 245R30, W/WATER SEP, ASSEMBLY	1
12	C33304401	FAN, BREEZA, 21"	1
13	C42300100	SWITCH, LOW OIL PRESSURE	1
14	C42300400	SENDER, LOW OIL PRESSURE	1
15	C42300500	SWITCH, W/SENDER, WATER TEMP, DOUBLE PRONG	1
16	C42300600	MAG PICKUP WITH 6' CABLE	1
17	C44300200	RESISTOR, 820HM, 12W	1
18	C90700500	ADAPTER, MAG PICKUP	1
19	CU45A020	HARNESS, ENGINE, DC	1
20	112345	TANK: 4 QUART COOLANT OVERFLOW	1
21	898572	M10 X 1.0, 1/8-27 ADAPTER CONVERSION	1
22	890790	FUEL HOSE, 1/4"	AR
23	C91100700	FUEL HOSE, 3/8"	AR
24	773630	PIPE, 3", BLACK	2
25	897920	HOSE, SPIRALITE 110, 3"ID, 3.5"OD, GREEN	1
26	C91109800	ELBOW, RUBBER, 3"ID X 3"ID, 90 DEGREE	1
27	CF33C010	INTAKE TO TURBO	1
28	CU33T020	BRACKET: 4 QUART COOLANT OVERFLOW	1
29	184996	RAIN DEFLECTOR	1
30	C91111100	RADIATOR HOSE, UPPER	1
31	C91107700	RADIATOR HOSE, LOWER	1
32	C33301600	FAN GUARD	1
33	C33301800	RADIATOR	1
34	CF34T035	FAN SHROUD	1



Figure 11-D

Engine Genset Assembly - John Deere 4045 TF275 - T80J

REV A





REV A

FIGURE 11-D

ITEM #	PART #	DESCRIPTION	QTY.
1	116848	ENGINE & GENERATOR ASSEMBLY, T80J	1
2	732123	ENGINE, 4045TF275	1
3	630948	GENERATOR, NEWAGE, W/PMG, UCI224F1L73D	1
4	C33301201	FAN, BREEZA, 21"	1
5	C33301600	FAN GUARD	1
6	CF34T030	FAN SHROUD	1
7	C33100501	AIR CLEANER ASSEMBLY	1
8	C33100502	FILTER, PRIMARY	1
9	C33100503	FILTER, SECONDARY	1
10	C33301800	RADIATOR	1
11	C91111100	RADIATOR HOSE, UPPER	1
12	C91109600	RADIATOR HOSE, LOWER	1
13	C91109800	ELBOW, RUBBER, 3"ID, 90 DEGREE	1
14	897920	HOSE, SPIRALITE 110, 3"ID, 3.5"OD, GREEN	1
15	CF33T020	PIPE, AIR INTAKE, 90 DEGREE	1
16	890786	FUEL LINE, STEEL, 1/4"	AR
17	890790	FUEL HOSE, 1/4"	AR
18	C91100700	FUEL HOSE, 3/8"	AR
19	C90700200	ADAPTER, LOP SENDER	1
20	741943	BELT	1
21	741939	WATER SEPARATOR	1
22	741915	OIL FILTER	1
23	741944	FUEL FILTER	1

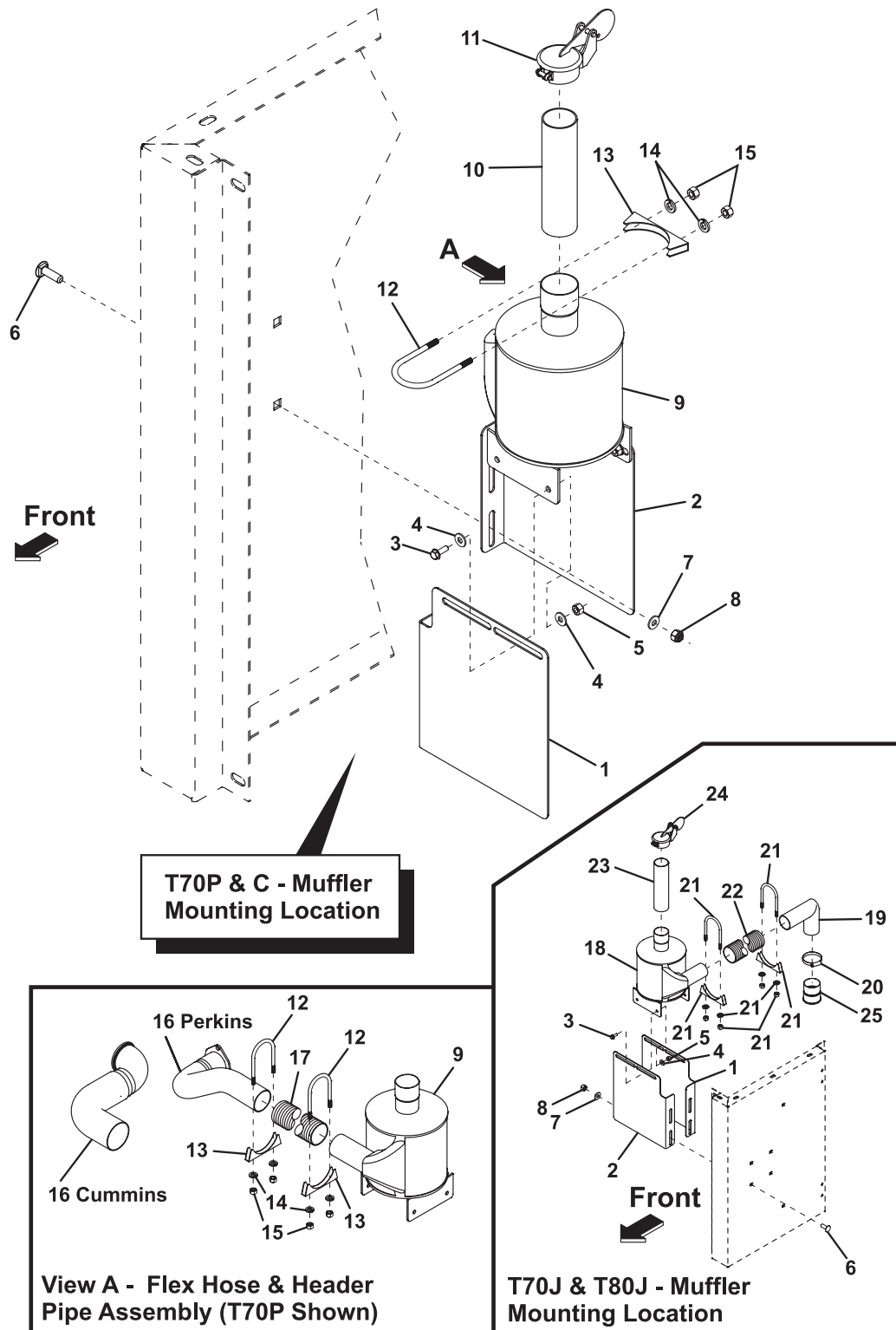


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Figure 11-E

REV A

Engine Muffler Assembly - Cummins, John Deere & Perkins

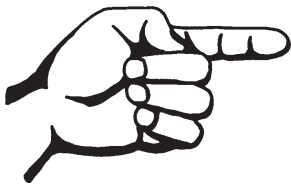




REV A

FIGURE 11-E

ITEM #	PART #	DESCRIPTION	QTY.
1	CD33F040	MUFFLER EXTENSION, RIGHT	1
2	CD33F030	MUFFLER EXTENSION, LEFT	1
3	C51601570	SCREW, FLANGE, 3/8" X 3/4"	4
4	981120	WASHER FLAT 3/8	8
5	C51601462	NUT, FLANGE, 3/8"-16	4
6	C21819	SCREW, CARRIAGE, 3/8"-16	4
7	990210	WASHER FLAT 1/2	4
8	C51601462	NUT, FLANGE, 3/8"-16	4
9	CP33A010	MUFFLER, ASSEMBLY, T70-P AND T70-C	1
10	CF33C035	EXHAUST PIPE MUFFLER OUT, T-70P, T-70C	1
11	C33503300	CAP, RAIN, 3"	1
12	C90104000	CLAMP, U-BOLT, 3"	3
13		INCLUDED IN ITEM 12	3
14		INCLUDED IN ITEM 12	3
15		INCLUDED IN ITEM 12	3
16	CP33K020	EXHAUST COWL PERKINS	1
16	CF33C021	EXHAUST COWL CUMMINS	1
17	C91103500	TUBING, FLEX, EXHAUST 3"	1
18	CF33T010	MUFFLER, ASSY., T70-J AND T80-J	1
19	C33502602	PIPE, 4" OD, EXHAUST	1
20	C90103600	CLAMP V-BAND EXHAUST 4"	1
21	C90102900	CLAMP, U-BOLT, 4"	4
22	C91103300	TUBE, FLEX EXHAUST, 4"	3
23	CF33C036	EXHAUST PIPE MUFFLER OUT	1
24	C3503301	CAP, RAIN, 4"	1
25	C91101500	FLANGE, 4" EXHAUST	1



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Section Twelve

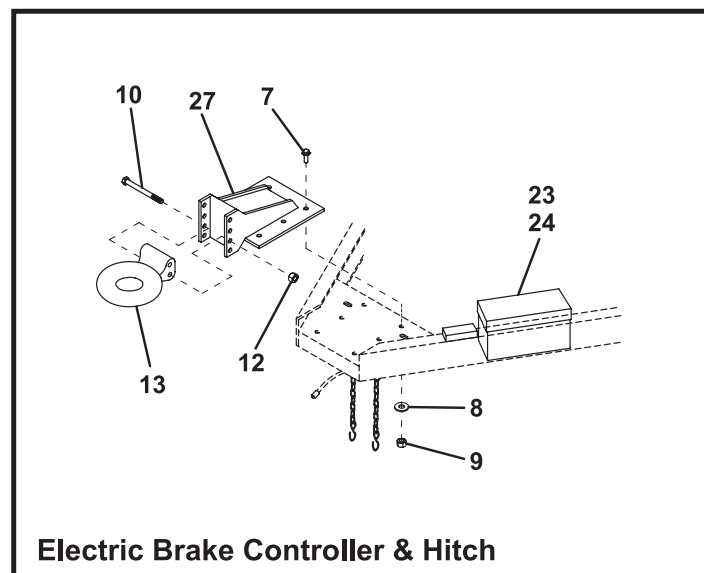
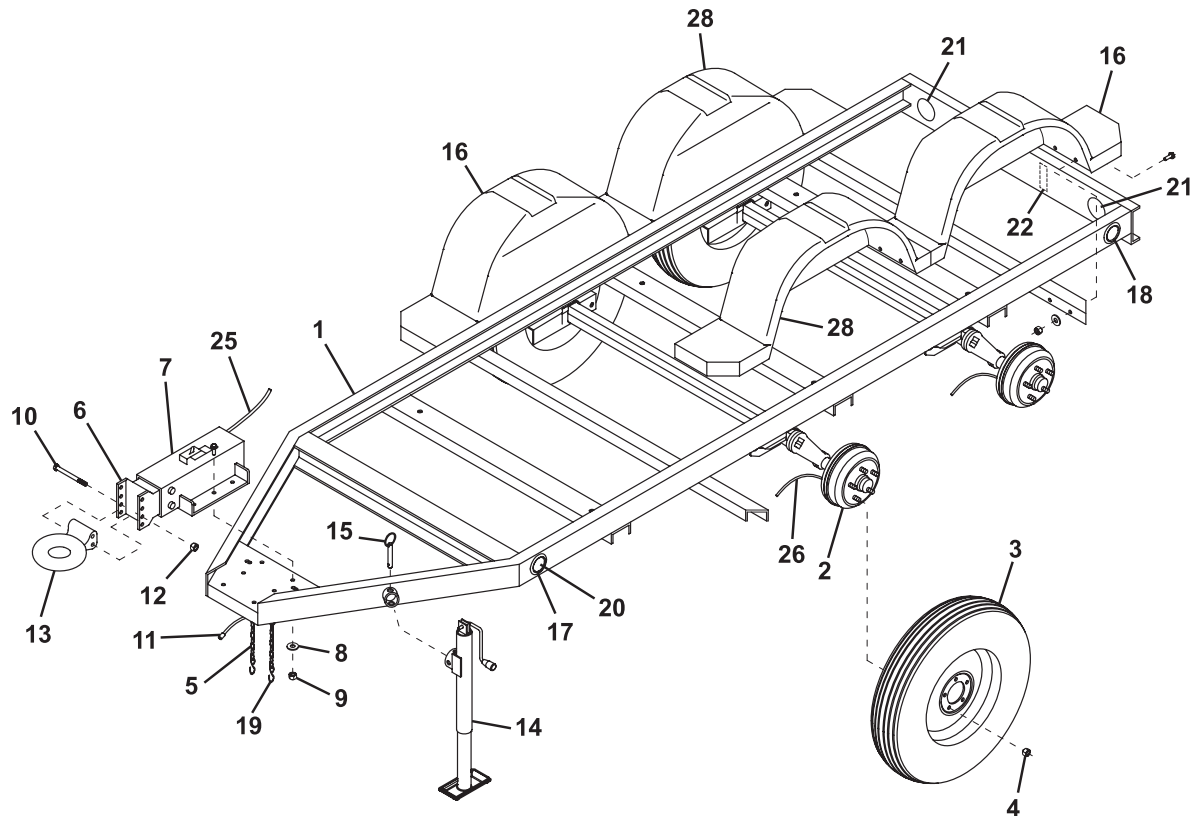
Trailer Components



Figure 12-A

Trailer Components

REV A

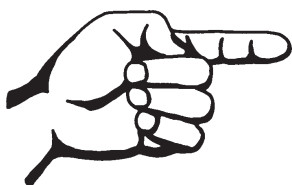
**Electric Brake Controller & Hitch**



REV A

FIGURE 12-A

ITEM #	PART #	DESCRIPTION	QTY.
1	124890	TRAILER, GENSET, F1-SERIES, HYDRAULIC BRAKES	1
1	124895	TRAILER, GENSET, F1-SERIES, ELECTRIC BRAKES	1
2	834252	AXLE, HYDRAULIC TRAILER BRAKES	2
2	834249	AXLE, ELECTRIC TRAILER BRAKES	2
3	841061	TIRE AND WHEEL MOUNTED, ST205/75R15 LOAD C	4
4	840396	LUG NUT	24
5	834208	SAFETY CHAIN	2
6	834241	HITCH MOUNT, INCLUDES HYDRAULIC ACTUATOR	1
7	C15309	BOLT	6
8	990210	WASHER	6
9	993170	NUT	6
10	834213	BOLT	2
11	834214	CONNECTOR, 6 PIN	1
12	834215	NUT	2
13	834216	RING HITCH, STANDARD	1
14	834237	JACK	1
15	834218	PIN	1
16	840084	FENDER, PLASTIC, LEFT REAR OR RIGHT FRONT	2
17	834221	AMBER CLEARANCE LIGHT	2
18	834223	RED CLEARANCE LIGHT	2
19	834209	C-HOOK, SAFETY CHAIN	2
20	834232	CLEARANCE LIGHT MOUNTING KIT	4
21	834234	STOP, TAIL LIGHT W/GROMMET AND PLUG	2
22	834236	TAG LIGHT KIT	1
23	834247	ELECTRIC BOX	1
24	834248	WIRE HARNESS FOR ELECTRIC BOX	1
25	834243	HYDRAULIC LINE, METAL	1
26	834245	HYDRAULIC HOSE KIT	1
27	834212	HITCH MOUNT, FOR TRAILER WITH ELECTRIC BRAKES	1
28	840083	FENDER, PLASTIC, LEFT FRONT OR RIGHT REAR	2



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Section Thirteen

Options



Figure 13-A

REV A

Options List

OPTION #	PART #	DESCRIPTION	QTY.
0GSX0030	840223	CORNER JACKS	2
	C81100503	JACK MOUNT TUBE	2
0GSX0031	841082	CENTER MOUNT JACK	1
0GSX0036	261235	TRICKLE CHARGER WITH MALE RECEPTACLE	1
	682776	RECEPTACLE, 15A, 125V,	1
	682777	RECEPTACLE, 15A, 125V,	1
0GSX0037	261236	3.5A BATTERY CHARGER WITH MONITORING	1
	682776	RECEPTACLE, 15A, 125V,	1
	682777	RECEPTACLE, 15A, 125V,	1
0GSX0040	840641	TRAILER HITCH, 2" BALL	1
0GSX0042	C41101000	LIGHTED CONTROL PANEL	1
0GSX0066	C33204000	EXTERNAL FUEL CONNECTION	1
0GSX0071	C42300800	LOW COOLANT SHUTDOWN	1
0GSX0075		SELECTOR SWITCH IN PANEL	1
0GSX0086	686711	BATTERY DISCONNECT SWITCH	1
0GSX0115	C11261	TRAILER HITCH, 2 /16" BALL, 12,000 LB RATED	1
0GSX0116	261190	TRAILER LIGHT CONNECTOR, 4 POLE FLAT	1
0GSX0137	841067	SPARE TIRE AND WHEEL, MOUNTS ON A FRAME	1
	841070	SPARE TIRE MOUNTING BRACKET, UNIVERSAL	1
0GSX0140	C33301002	BLOCK HEATER, JOHN DEERE	1
	682776	RECEPTACLE, 15A, 125V	1
	682777	RECEPTACLE, 15A, 125V	1
0GSX0142	C33301003	BLOCK HEATER, PERKINS	1
	682776	RECEPTACLE, 15A, 125V	1
	682777	RECEPTACLE, 15A, 125V	1
0GSX0110	124890	TRAILER, W/HYDRAULIC SURGE BRAKES	1
0GSX0111	124895	TRAILER, W/ELECTRIC BRAKES	1
0GSX0164	841083	LED TRAILER LIGHTS	2
0GSX0138	841067	SPARE TIRE AND WHEEL, MOUNTS ON A FRAME	1
	124317	SPARE TIRE MOUNTING BRACKET	1
	841070	SPARE TIRE MOUNTING BRACKET, UNIVERSAL	1
0GSX0024		OPTION GS: CAM-LOCK DISTRIBUTION PANEL	1