

 **dynosys**TM



Auxiliary Power Unit (APU)

OWNER'S MANUAL

54-8293-E

Owner's Notes

The *Dynasys™ APU* has been designed for ease of operation and maintenance. Review of this manual and the pre-trip inspections will help reduce any over-the-road operating issues. A regular maintenance program (enclosed) will help to ensure that your *Dynasys APU* provides long-term and maintenance-free superior performance. Should there be any questions or concerns, please contact *Dynasys* at 308-762-2975 or use our dealer map to find a convenient location for service work.

<https://www.dynasysapu.com/dealer-map>



APU Serial Number: _____

*Note your serial number for quick and easy reference.
Please have your serial number ready before contacting
Technical Services or Customer Support.*

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1.0 Overview

The **Dynasys APU** system is a totally self-contained, stand-alone AC (4.5kW) generator, air conditioner and heater (HVAC) system. The only supply sources that are shared with the truck systems are the fuel and battery supply. The APU also recharges the truck batteries while in operation. Superior design and performance have been incorporated into this product to provide trouble-free and economical APU system operation. We are confident you will be satisfied with your new **Dynasys** auxiliary power unit. The following pages contain descriptions of design features, principles of operation and preventive maintenance procedures. Please review it carefully prior to starting and operating your **Dynasys** unit. All safety warnings and advisories found within this owner's manual must be observed.

2.0 Dynasys Safety Systems

Prior to performing any service, maintenance or repairs, the APU must be disconnected from its battery source or the interconnect harness must be disconnected from the back of the unit. In the recommended installation

configuration, the **Dynasys APU** system shares the battery supply with the truck's main battery bank. After disconnecting the battery cables from the battery or disconnecting the interconnect harness, verify the battery posts inside the engine cabinet to confirm there is no voltage present at the APU.

2.1 Safety Cover Switch

It is critical the safety cover switch on the APU main engine is never deactivated or bypassed. Failure to comply may result in serious injury. The safety cover switch is designed to prevent the **Dynasys APU** from starting when the front engine access panel is loose or has been removed. When the switch is open, the panel has been removed or is loose. When the switch is closed, the front access panel is attached. The switch is located at the front of the engine enclosure near the coolant overflow bottle, in the lower right hand corner of the APU cabinet assembly.

2.2 Auto-Start (Automatic Start/Stop) Feature

The Auto-Start feature allows the APU to be started automatically in a variety of situations. Battery level, voltage, temperature of the cabin bunk, APU coolant temperature, and time of day can be programmed to prompt the APU engine to start. Review the cabin controller unit (CCU) operating instructions for further information regarding the Auto-Start feature. Further, this feature must be deactivated before refilling the truck's diesel fuel tanks.

2.3 Starting Aids

Do not use aerosol starting aids such as ether. Use of **any starting aids** can result in an explosion and/or personal injury, and will render the warranty null and void due to internal engine damage.

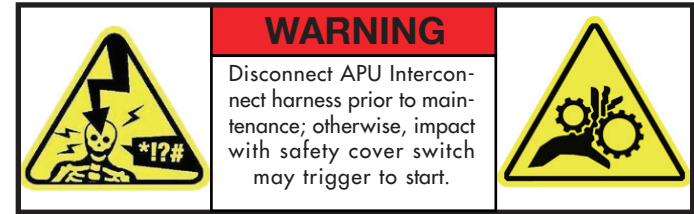


DO NOT USE
DO NOT USE
DO NOT USE
DO NOT USE



2.4 Warning Label

Please note, for safety reasons, it is best to disconnect the APU interconnect harness at the back of the unit prior to performing maintenance activities.



2.6 Caution: HOT Surfaces

Exercise caution when performing repair and maintenance activities, as the APU's surfaces can reach extremely high temperatures.



2.7 Inspection of the Safety Systems

The safety systems on the *Dynasys APU* should be examined and/or tested whenever maintenance is performed on the APU, to ensure that the systems are in good condition and in proper working order.

2.8 Contact us

Dynasys Technical Services can be contacted at 308-762-2975 Ext. 116.

3.0 Pre-Trip Inspections

Prior to performing the start-up procedure, the following steps must be performed:

- Remove the front access panel, inspect and Verify oil level every 250 hours
- Verify all belts are in good condition and are properly tensioned
- Verify that all electrical connections are not loose or corroded
- Verify the unit is free of leaks, has no loose or broken parts, and has no other damage to components
- Verify all engine fluid levels are adequate
- Replace and secure the front access panel

4.0 Dynasys Cabin Controller Unit (CCU) Description

Refer to the *Dynasys User's Manual* for operation of the touch screen controller.

5.0 Operation of the Heater, Air Conditioner and Generator



Cabin Controller Unit (CCU)

5.1 Heater

The heating system is fully automatic. A constant comfort zone is maintained with the CCU temperature settings. The bunk heating system has a capacity of 1.5kW. This is a complete stand-alone system that is not integrated into the truck's heating system. When heat mode is selected and the *Dynasys APU* is in operation, the electric heating element is energized (installed under the bunk). The blower motor circulates the internal cab air across the heating element, releasing warm air into the bunk area. This system is designed to maximize the bunk heating efficiency.

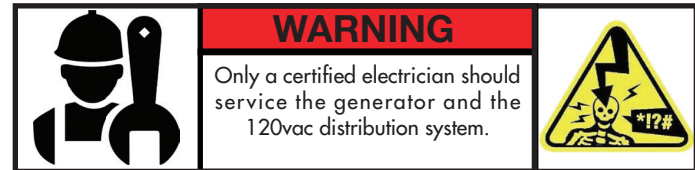
5.2 Air Conditioner

The air conditioner is also fully automatic. A constant comfort zone is maintained with the CCU temperature settings. The air conditioner is a 12,000 BTU Hermetic R134a system that is not integrated into the truck's air conditioning system. When cool mode is selected and the APU is in operation, the compressor is activated (installed under the bunk). The blower motor circulates the internal cab air across the evaporator coil, releasing cool air into the bunk area. This system is designed to maximize the bunk cooling efficiency.



5.3 Generator

The 4.5kW 120vac heavy-duty generator is located at the rear of the *Dynasys* unit and is belt-driven. The generator supplies a load center with two breakers. First, there is one 120vac dual outlet receptacle for the driver's convenience; this outlet is on a 15 amp circuit. This receptacle can be installed anywhere in the truck's bunk area to provide power for 120vac devices. The second breaker is a 25 amp circuit for the *Dynasys* HVAC unit located under the bunk.



6.0 Technical Information

For technical specifications (dimensions, weight, fluid capacity and type) of the *Dynasys APU* components, see the following sections.

6.1 Dimensions and Weight



Fig 1

Main Unit Fig 1		Bunk Heater AC Unit Fig 2
18"	Width	11.50"
27"	Height	12.75"
25"	Depth	22.25"
349lbs	Weight	70lbs
	Air Flow	400 CFM



Fig 2

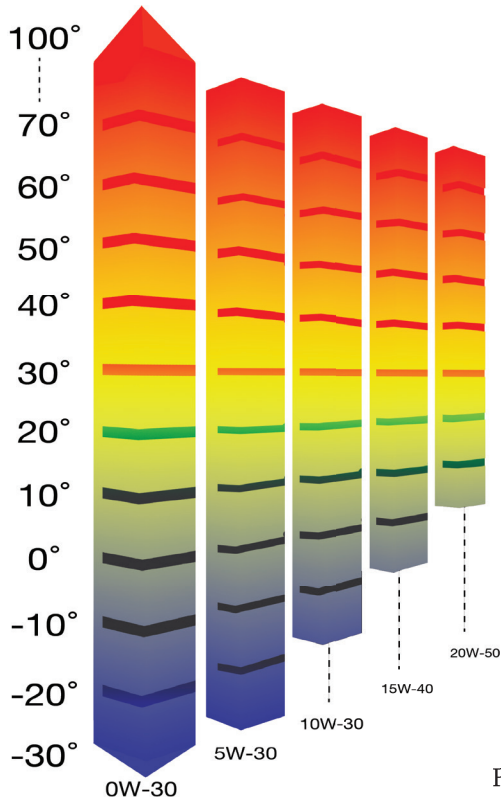


Fig 3










SAE Viscosity Grade and Outdoor Temperature
Degrees in Fahrenheit

6.2 Fluid Capacities and Type

Engine Oil with Filter	3 US qt. (96 oz)
Type	Full Synthetic Oil <i>(Per engine manufacture recommendation)</i>
Viscosity	(See Fig 3)
Cooling System	50/50 Mixture of Ethylene glycol & water (72 oz. capacity)
Fuel Type	Diesel Fuel Only
Air Conditioning (R134)	1lb, 14oz (min) to 2lb. (max) Integrated Condenser

7.0 Maintenance Schedule





Engine







- Check engine oil level 
- Inspect belt, hoses for condition/tension 
- Check for unusual noise or vibration 
- Replace air filter element as needed 
- Inspect/clean water separator as needed 
- Change fuel filter as needed 
- Adjust valve clearance 
- Change engine coolant 
- Check and/or adjust engine speed as needed 

Engine Oil Change Intervals






- Oil (Full Synthetic) and filter 

Electrical

- Check cover safety switch 
- Inspect battery terminals 
- Inspect unit for broken or loose wires 
- Check for loose connections 

- | | |
|------------------------|---|
| Each Trip |  |
| After first 50 hours |  |
| At 250 hour intervals |  |
| At 500 hour intervals |  |
| At 1000 hour intervals |  |
| At 2000 hour intervals |  |

Misc

- Visually inspect for fluid leaks 
- Visually inspect for damaged/loose components 
- Check mounting bolts and brackets 
- Check/clean condenser coil and generator air inlet 
- Check/clean HVAC air inlet filter 

8.0 Limited Warranty

The limited warranty only applies to the **Dynasys** auxiliary power unit (APU), and does not extend to items made by other manufacturers.

8.1 Warranty Coverage

Dynasys warrants that, under normal service and use, the **Dynasys APU** will be free from defects in material and workmanship until the earlier of twenty-four (24) months from the date of installation or 4,000 hours of use. This warranty is subject to all terms, conditions, limitations, and provisions of this limited warranty and the applicable terms of sale from the respective **Dynasys APU** dealer. This limited warranty is governed by the laws of the State of Nebraska, and any claims or disputes arising out of this limited warranty shall be governed by the laws of the State of Nebraska. The express warranty set forth above is exclusive, and no other warranties of any kind, whether statutory, oral, written, expressed or implied, including any implied warranties of merchantability or fitness for a particular purpose, shall apply. There are no warranties

that extend beyond the description on the face hereof. The consumer's exclusive remedies for breach of warranty, and **Dynasys** only obligation arising out of or in connection with breach of warranty shall be those stated herein. **Dynasys** expressly disclaims liability for incidental and consequential damages caused by the **Dynasys APU** sold.

8.2 Warranty Obligations

Dynasys will repair or replace, at its option, the **Dynasys APU** component(s) that are covered under the terms of this warranty. Repair or replacement will be completed at an authorized dealer or company-owned facility, at no charge to the owner of the **Dynasys APU**, within a reasonable time after presentation of proof of purchase and determination by **Dynasys** or its authorized dealer that a component is defective or has failed under normal service and use within the 24-month/4000-hour warranty

period. Please note that replacement parts could be new or re-manufactured.

8.3 Maintenance in Relation to Warranty

The *Dynasys APU* owner's manual lists all maintenance functions required to validate and continue this limited warranty. Please note that components that failed due to poor or improper maintenance will not be covered by this limited warranty and could cause the entire APU warranty to be void. Where a dispute arises regarding proper maintenance, the manufacturer reserves the right to request proof in the form of receipts for maintenance, and any other records of service, to establish that proper maintenance has been performed, as per the maintenance manual and/or dealer communications from the manufacturer.

8.4 Installation in Relation to Warranty

It is the responsibility of the installer and the owner to ensure that all *Dynasys APU* components are in proper working order at the time of the installation. The manufacturer is not responsible for the components that fail as a result of improper installation. In order

to validate your *Dynasys APU* warranty, the unit installation must be **1. Performed by an authorized Dynasys Dealer** or **2. Verified by an approved Dynasys dealer**. A *Dynasys* Installation Checklist and Warranty Registration Form must be completed and registered at *Dynasys* to certify the installation.

8.5 Modifications in Relation to Warranty

Any modifications to the *Dynasys APU* without a written authorization from the manufacturer will void this limited warranty. Repair, replacement or maintenance, using other than approved parts, will be cause to terminate this limited warranty, as will use of starting aids such as ether.

8.6 Exclusions to Warranty

This warranty does not cover the cost of normal maintenance, such as (but not limited to):

- Tune-ups, adjustments or inspections
- The tightening of clamps, fasteners or hoses
- The replacement of belts, fuel, air filters or oil filters
- Wiring or ground-side disconnect due to vibration

8.7 Limitations of Remedies

The remedy of repair or replacement as set forth herein is the sole exclusive remedy available to the purchaser or user of the *Dynasys APU*. *Dynasys* disclaims and shall not be liable or responsible to the owner or user of the *Dynasys APU* or any other person for incidental, consequential, direct, indirect, special or general damages, accidental repairs, road calls, traveling expenses, loss of revenue profits, loss of truck use, or damage to person or property. No claim of any kind asserted against *Dynasys APU*, whether asserted under legal theories of negligence, strict liability, warranty, or any other common law or statutory basis, shall be greater in amount than the purchase price of the *Dynasys APU*, with respect to which damages are claimed.

8.8 Indemnity

The user and owner of the *Dynasys APU* agree to indemnify and hold *Dynasys* harmless from any and all claims, expenses, suits or liability of any nature whatsoever asserted against *Dynasys* arising out of in any way related to negligence on the part of the user or owner of the *Dynasys APU*.

8.9 Warranty Disclaimer

Failed or defective parts must be inspected and their replacement installed by an authorized *Dynasys APU* dealer. The manufacturer reserves the right to inspect failed or defective parts prior to a decision on any claim under this limited warranty. It is the owner's responsibility to act promptly in submitting any such claim.

8.10 Transfer of Warranty

Where the truck with the *Dynasys APU* has been sold by the first owner to a second owner and the *Dynasys APU* has not been removed, this limited warranty is transferable from the original owner to a second owner with whatever portion of the limited warranty that remains from the date of sale to the first owner. Where the *Dynasys APU* has been removed from the vehicle in which it was originally installed and sold by the first owner to a second, re-installation is required to be completed or inspected by an authorized dealer in order to validate the remaining portion of this limited warranty. Where the original owner transfers the *Dynasys APU* to a new vehicle, the installation must be completed or inspected by an authorized dealer to validate the remaining portion of this limited warranty.

9.0 Warranty Claims

To obtain warranted repairs, you must request the needed repairs within the warranty period from an authorized *Dynasys* dealer. A reasonable time must be allowed to perform the warranty repair after taking the unit to a dealer location. Repairs will be performed during normal business hours.

To ensure a timely repair process, the following steps must be followed:

- Contact the nearest *Dynasys* dealer to schedule a warranty service appointment. Prior to contact, have the following information available:
 - Unit Serial number
 - In-service and purchase date
 - Nature of problem
- Deliver unit to dealer for service. Upon completion of repairs, review and sign the dealer work order (keeping a copy for personal reference).
- If you still have questions, please contact the

Dynasys Warranty Administration by:
phone at 308-762-2975 Ext. 119
email at apusupport@dynasysapu.com

10.0 California Proposition 65 Warning

Proposition 65 requires businesses to notify Californians about significant amounts of chemicals in the products they purchase, in their homes or workplace, or that are released into the environment. By providing this information, Proposition 65 enables Californians to make informed decisions about protecting themselves from exposure to these chemicals.



For more information regarding Proposition 65 reference www.oehha.ca.gov/prop65/html

11.0 Dynasys APU: Service Record

Owner's Name:

APU Serial Number:

Date of Service					
Location					
Performed by					
Signature					
		Service Type			
APU Hours	50	250	500	1000	2000
First oil change					
Inspect & Clean water separator					
Replace fuel filter					
Replace air filter element					
Change oil					
Coolant replacement					
Adjust valve clearance					
Other service					
Other service					
Other service					

3000	4000	5000	6000	7000	8000	9000

Dynasys and Aftermarket Filters

Oil

Dynasys: 56-266-7143

CAT: 266-7143

Wix: 51394

Baldwin: B33

Luberfiner: PH2840

Air

Dynasys: 54-8045

Wix:46449

Baldwin: RS3715

Luberfiner: LAF8388

Fuel

Dynasys: 56-9001

Wix: 33583

Baldwin: BF1380

Luberfiner: LFF8678

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