



## RAM AIRCRAFT, LP

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**ENGINES • PARTS • PROPELLERS • ACCESSORIES • STC'S**

### Cessna 414

#### RAM Overhaul & Improvement Package ( R.O.I. ) - Series VII

##### Two Engines - OHE CMI TSIO-520-NB

- Horsepower - 335 hp
- TBO - 1600 hrs.
- Cylinders - NE  
[ RAM Nickel New Cylinder Package ]
- Crankcase - heavy style case - OHE  
[ with 7th studs on cylinder bases ]
- Crankshaft - OHE
- Camshaft - RAM high-efficiency
- Alternator - exchange
- Starter and starter drive - OHE
- Magnetos - Champion Slick 6320 - NE  
[ pressurized ]
- Spark plugs - new
- Magneto harness - Champion - new  
[ parallel type ]
- Fuel injection system - OHE
- Turbocharger - OHE  
[ TA81 larger 17 in<sup>3</sup> compressor ]
- Turbo controller - OHE
- Overboost relief valve - OHE
- Intercooler - Improved - NE  
[ larger 140 in<sup>3</sup> to RAM specifications ]
- Induction couplings - RAM - new
- Induction flex elbows - RAM - new
- Air filter - RAM - new
- Metal baffles - exchange  
[ refurbished and painted ]
- Baffle Seals - new  
[ RAM *SureStand* red silicone rubber ]
- Cooling shroud - RAM - new  
[ for dry vacuum pump ]
- Oil cooler - NE
- Air / oil separator - exchange  
[ inspected and repaired ]
- Breather, rod and cap - OHE  
[ Stainless Steel ]
- Precision balance - exchange  
[ crankshaft and rod sets ]
- Core Return Policy - See:  
RAM OHE CMI TSIO-520  
Engine Overhaul Specifications.
- Also see:  
RAM Value Options & Compliance Items.

OHE = Overhauled Exchange  
NE = New Exchange - OEM or PMA  
New = New Outright - OEM or PMA  
New Items = Subject to test time,  
ferry time and inventory time.

##### Installation Parts - Included

- Wastegates and actuators - RAM - OHE
- Engine shock mounts - new
- Exhaust slip-joints - PMA - new
- Primary fuel & oil and AC hose kits - heavy duty - *Teflon*<sup>™</sup> - new

##### Compliance Item

- Note: Cessna 414-0001 through 414-0802  
[ Cessna SK414-8E is required. ] [ See RAM Value Options & Compliance Items. ]

##### RAM Overhauled Engine TBO Warranty

100% Engine, propeller, and accessories for the 1st year, or 500-hrs, whichever occurs first. Thereafter, the engine only is warranted on a prorata basis to TBO at RAM's reduced minimum accrual rate of only 30 hours per month, thus extending coverage over four years. For complete details go to [www.ramaircraft.com/ramtbowarranty](http://www.ramaircraft.com/ramtbowarranty)

## Upgrade Kit - Included - RAM VII

- Hartzell *ScimitarPlus* Propellers - NE [ New technology FC7693 Blended Airfoil Blades ]
- New 1-piece D-7267-2P polished spinner and new bulkhead - NE  
[ Includes new de-ice boots. ] [ The slip ring is refurbished - exchange ]
- McCauley MC-1 Governors - exchange
- Propeller Electronic Synchrophaser Control Box - RAM RPS2000 - new
- RAM VII - 12% larger Inconel Turbo Wye - new  
[ With Inconel elbow from wye to wastegate with clamp and stainless  
[ steel wastegate overboard pipe - new ]
- RAM VII - Upgrade - Intercooler Scoop - RAM Low profile - new
- RAM VII - Upgrade - Magneto harness - new [ # 1 fires all top plugs, # 2 fires all bottom plugs ]
- RAM VII - Upgrade - Larger Intercooler 140 in<sup>3</sup> - to RAM specs - exchange
- RAM VII - Upgrade - Airesearch TA81 turbocharger - OHE  
[ with larger 17in<sup>3</sup> compressor and stainless steel turbine housing ]
- RAM VII - Upgrade - air exit ramp - wastegate area - RAM - new
- RAM Vortex Generators - RAM engineered - parallel flow - new
- Cessna 414-0001 thru 414-0655  
Install improved cooling engine cowling nose bowls - New exchange  
Paint new engine cowling nose bowls to match the nose bowls removed.  
[ 414-0801 thru 414-0965 -The Cessna factory delivered with improved cooling larger nose bowls.]
- Shadin Digiflo-L Electronic Fuel Management - new  
[ without RAM connecting the avionics interface ]
- EGT gauge range marked - new [ with probes - new ] [ Leads as required. ]
- Tach, MP and 3-in-1 engine gauges - check calibration and range mark
- Serviceable ( non-TAS ) airspeed indicators - remarked  
[ If TAS indicator is currently installed, consult your RAM representative. ]
- Gross Weight Increase STC and Flight Manual Supplement  
[ + 395 lbs. Useful load ] [ GW 6,350 lbs. up to 6,765 lbs. ] [ Ramp Wt. to 6,800 lbs. ]

## Installation and Set-up

- Each aircraft receives a detailed preflight and flight inspection to ensure airworthiness and to document performance of instruments, flight controls, landing gear, accessories, lights, and avionics.
- Discrepancies are brought to customer's attention. Unairworthy items must be repaired at customer's expense during RAM proceedings in order for RAM to set up, fly, and deliver the finished product.
- Old engines are removed. Engine beds are cleaned. Mount structures are inspected and corrosion treated. Four hours labor per engine is standard.
- Due to its tendency to contaminate the engine oil supply, if installed, the propeller unfeathering accumulators will be disabled unless optionally replaced with a newer unit. Prop Unfeathering Accumulator: \$875 / each - OHE
- Applicable RAM R.O.I. Installation Parts and Upgrade Kit are installed.
- Engines installed and set up, involving multiple flights and fuel.
- Aircraft washed and interior cleaned prior to delivery and customer acceptance.

## Cessna 414 - Series VII

### RAM Overhaul & Improvement Installation ( R.O.I. )

- **Complete Package: \$148,155** - S/N 414-0001 to 414-0655 - w / installed larger nose bowls
  - **Complete Package: \$144,555** - S/N 414-0801 to 414-0965 - have original larger nose bowls
- Installed at RAM - exchange**

- **RAM OHE CMI TSIO-520-NB - 335 hp engines**
- **Installation Parts - Included**
- **Installation and Set-up**
- **Upgrade kit - Series VII**