Distributor:	Linder Machinery
Item # 196	

KOMATSU WA480-8 Wheel Loader

BUILD SHEET

Engine and related items:

Air cleaner, dry-type, two stage, radial sealed

Engine shut-off system, electric with key

Engine, Komatsu SAA6D125E-7, 6 cylinder, turbocharged, air to air after cooled, cooled EGR, direct injection Tier 4 Final emissions

certified, diesel

Gross HP: 301 HP (244 kW) / 2000 RPM (SAE J1995)

Net HP: 299 HP (223 kW) / 2000 RPM (ISO 9249 / SAEJ 1349)

Exhaust pipe, curved

Fan, auto-reversing, hydraulic-driven

KDPF - After-Treatment Assembly Consisting of KDOC and KCSF

Selective Catalytic Reduction (SCR) Assembly

Komatsu Auto Idle Shutdown

Starting aid, intake manifold preheater

Two mode engine power select system

Electrical system:

Alternator, 90 ampere, 24 volt

Back-up alarm

Batteries, 2 x 12 volt (150 Ah) (1000 CCA)

Battery disconnect switch

Horn, electric

Lights

- Back-up light, rear, LED
- Stop and tail, LED
- · Turn signal, (2 front, 2 rear) with hazard switch
- Working lights, halogen (2 front, high low beam with indicator, fender mount, 2 rear grill mount
- · Working lights, halogen (2 front) outside of cab mount

Sealed DT electrical connectors

Starting motor, 7.5kW direct electric, 24V

Power Train and Controls:

Differentials, conventional, inboard planetary

Lock-up torque converter

Parking brake, wet multiple disc

Service brakes, hydraulic, wet multiple disc,

axle by axle (inboard)

Transmission control, electric with kick-down switch

Transmission, full power shift automatic, F4-R4

softshift, countershaft with four mode select system

Operator environment:

Cab, (ROPS/FOPS) (installed), includes; adjustable arm rests, adjustable work equipment levers, cigarette lighter/ ashtray, dome light, electrically heated rear window, air conditioner / heater / defroster / pressurizer, floor mat, front (intermittent) and rear wiper/washer, rearview mirrors (2 outside, 2 inside), right hand and left hand door access with steps and sunvisor

Hydraulic control, 2 spool (boom/bucket), 2 lever

EPC fingertip control

Monitor, 7 inch, LCD, color

Radio, AM/FM with speakers and auxiliary jack

Rear view monitor

Seat, heated air suspension type, reclining with armrests (fabric)

Seat belt, 3" width, retractable

Steering wheel, tiltable, telescopic

BUCKET:

5.75 yd GP w/ Bolt on Edge

- · Hydraulic oil temperature
- Speedometer / Tachometer
- Torque Converter Temperature
- · Head lamp high beam
- · KDPF restriction indicator
- Komtrax message
- Parking brake warning
- Seat belt caution
- · Shift hold
- Steering oil pressure
- Torque converter lock-up
- · Transmission speed range
- Turn signal
- · Work equipment lock warning

KOMATSU®

WA480-8
Tier 4 Final Engine

WHEEL LOADER

NET HORSEPOWER

299 HP @ 2000 rpm 223 kW @ 2000 rpm

OPERATING WEIGHT

56,262 lb - 56,416 lb 25,520 kg - 25,590 kg

BUCKET CAPACITY

6.0 - 6.5 yd³ 4.6 - 5.0 m³



PERFORMANCE, DURABILITY AND FUEL ECONOMY

Large capacity torque converter with lock-up:

Quick acceleration

Lock-up in 2nd, 3rd and 4th gear

Komatsu SmartLoader Logic helps reduce fuel consumption with no decrease in production.



A powerful Komatsu SAA6D125E-7 engine provides a net output of 223 kW 299 HP with up to 20% improved fuel consumption.* This engine is EPA Tier 4 Final emissions certified.

Variable Geometry Turbocharger (VGT) uses a hydraulic actuator to provide optimum air flow under all speed and load conditions.

Komatsu Diesel Particulate Filter (KDPF) and Selective Catalytic Reduction (SCR) systems reduce particulate matter and NOx while providing automatic regeneration that does not interfere with daily operation.

Fluid neutral or better

Fuel & DEF total consumption is less than fuel consumed by the prior model.

Cooling

- · Hydraulically driven, variable speed
- · Auto-reversing fan is standard
- · Wider core coolers resist clogging
- · Swing out fan for easy cleaning

Remote boom and bucket positioners can set kick-outs from inside the cab.

Variable displacement piston pumps with CLSS provides quick response and smooth operation to maximize productivity.

Rearview monitoring system (standard)

Advanced diagnostic system continuously monitors machine operation and vital systems to identify machine issues and assist with troubleshooting.

Transmission Mode Select System (3 modes) allows shifting mode to be matched more efficiently to varying work applications.

Enhanced working environment:

- · High capacity air suspension seat, heated
- · Seat mounted EPC controls with F-N-R switch
- (2) 12V power outlets

New style of front fender is plastic for durability.

Rear full fenders (standard) are made of durable plastic and swing open for easy access to maintenance points.

Large LCD color monitor panel:

- 7" high resolution, multi-color screen is easy to read
- · Provides "Ecology Guidance" for fuel efficient operation
- · Onboard diagnostics do not require use of a laptop computer
- · Multiple choice, pulldown menus are filled with useful functions

Komatsu Auto Idle Shutdown helps reduce idle time and operating costs.

External mounting of engine air filter (above rear LH fender) provides easy access for maintenance.

The KOMTRAX® telematics system is standard on Komatsu equipment with no subscription fees throughout the life of the machine. Using wireless technology, KOMTRAX® transmits valuable information such as location, utilization, and maintenance records to a PC or smartphone app. Custom machine reports are provided for identifying machine efficiency and operating trends. KOMTRAX® also provides advanced machine troubleshooting capabilities by continuously monitoring machine health.

Battery disconnect switch allows a technician to disconnect and lock-out the power supply before servicing the machine.

Operator Identification System can track machine operation for up to 100 operators.

KOMATSU PARTS & SERVICE SUPPORT



KOMATSU CARE

Program Includes:

*The WA480-8 comes standard with complimentary factory scheduled maintenance for the first 3 Years or 2,000 Hours, whichever comes first.

Planned Maintenance Intervals at:

500/1000/1500/2000 hour intervals. (250 hr. initial interval for some products) Complimentary Maintenance Interval includes:
Replacement of Oils & Fluid Filters with genuine Komatsu Parts,
50-Point inspection, Komatsu Oil & Wear Analysis Sampling (KOWA) / Travel & Mileage (distance set by distributor; additional charges may apply)

Benefits of Using Komatsu CARE

- Assurance of Proper Maintenance with OEM Parts & Service
- Increased Uptime & Efficiency
- Factory Certified Technicians Performing Work
- Cost of Ownership Savings
- Transferable Upon Resale

Complimentary KDPF Exchanges

The WA480-8 comes standard with 2 Complimentary KDPF Exchange units for the first 5 Years or 9000 hours whichever comes first. The suggested KDPF Exchange unit service intervals are 4500 hours & 9000 hours. End user must have authorized Komatsu distributor perform the removal & installation of the KDPF.

Complimentary SCR Maintenance

The WA480-8 also includes 2 factory recommended services of the Selective Catalytic Reduction (SCR) Diesel Exhaust Fluid (DEF) system during the first 5 Years or 9000 hours whichever comes first. The service includes factory recommended DEF tank flush & strainer cleaning at the suggested service intervals of 4500 hours & 9000 hours.

	i250	500	1000	1500	2000
PERFORM KOWA SAMPLING (5 samples) -	1	1	1	1	1
engine, transmission, hydraulics, front & rear axle			· ·		
CLEAN AC FRESH AND RECIRC AIR FILTERS	1				
REPLACE HYDRAULIC OIL FILTER ELEMENT	1				1
REPLACE TRANSMISSION OIL FILTER	1		1		1
CHECK AND CLEAN AIR CLEANER	1	1	1	1	1
CHECK AND CLEAN FUEL BREATHER ELEMENT	1	1	1	1	1
LUBRICATE REAR AXLE PIVOT PIN	1	1	1	1	1
LUBRICATE WORK EQUIPMENT	1	1	1	1	1
CHECK PARKING BRAKE	1	1	1	1	1
CHECK WHEEL HUB BOLTS AND RETIGHTEN AS NECESSARY	1	1	1	1	1
DRAIN SEDIMENT FROM FUEL TANK	1	1	1	1	1
COMPLETE 50 POINT INSPECTION FORM; LEAVE PINK COPY WITH CUSTOMER OR IN CAB	1	1	1	1	1
RESET MONITOR PANEL MAINTENANCE COUNTER FOR APPROPRIATE ITEMS	1	1	1	1	1
CHANGE ENGINE OIL		1	1	1	1
REPLACE ENGINE OIL FILTER		1	1	1	1
REPLACE AC FRESH & RECIRC AIR FILTERS		1	1	1	1
REPLACE FUEL PRE-FILTER	1	1	1	1	1
REPLACE FUEL MAIN FILTER		100	1	-	1
REPLACE DEF TANK BREATHER			1		1
CLEAN TRANSMISSION BREATHER ELEMENT			1		1
REPLACE TRANSMISSION OIL STRAINER			1		1
LUBRICATE CENTER HINGE PIN			1		1
LUBRICATE DRIVE SHAFT CENTER SUPPORT					1
CHANGE TRANSMISSION OIL					1
CHANGE FRONT AND REAR AXLE OIL					1
REPLACE HYDRAULIC TANK BREATHER					1
CLEAN HYDRAULIC OIL STRAINER					1
CHANGE HYDRAULIC OIL					1
REPLACE DEF PUMP FILTER					1
REPLACE KCCV FILTER					1
ACTORY TRAINED TECHNICIAN LABOR	1	1	1	1	1
2 KDPF Exchanges at 4,500 Hrs and 9,000 Hrs.	A	٧		V	Y

Komatsu CARE® - Extended Coverage

- Extended Coverage can provide peace of mind by protecting customers from unplanned expenses that effect cash flow
- Purchasing extended coverage locks-in the cost of covered parts and labor for the coverage period and helps turn these into fixed costs



Komatsu Parts Support

- 24/7/365 to fulfill your parts needs
- 9 parts Distribution Centers strategically located across the U.S. and Canada
- Distributor network of more than 300 locations across U.S. and Canada to serve you
- Online part ordering through Komatsu eParts
- Remanufactured components with same-as-new warranties at a significant cost reduction



Komatsu Oil and Wear Analysis (KOWA)

- KOWA detects fuel dilution, coolant leaks, and measures wear metals
- Proactively maintain your equipment
- Maximize availability and performance
- Can identify potential problems before they lead to major repairs
- Reduce life cycle cost by extending component life

^{*} Certain exclusions and limitations apply. Refer to the customer certificate for complete program details and eligibility. Komatsu® and Komatsu Care® are registered trademarks of Komatsu Ltd. Copyright 2018 Komatsu America Corp.

KOMTRAX EQUIPMENT MONITORING



WHAT

- KOMTRAX is Komatsu's remote equipment monitoring and management system
- KOMTRAX continuously monitors and records machine health and operational data
- Information such as fuel consumption, utilization, and a detailed history lowering owning and operating cost



- Know when your machines are running or idling and make decisions that will improve your fleet utilization
- Detailed movement records ensure you know when and where your equipment is moved
- Up to date records allow you to know when maintenance is due and help you plan for future maintenance needs





- KOMTRAX data can be accessed virtually anywhere through your computer, the web or your smart phone
- Automatic alerts keep fleet managers up to date on the latest machine notifications



Knowledge is power - make informed decisions to manage your fleet better

- Knowing your idle time and fuel consumption will help maximize your machine efficiency
- Take control of your equipment - any time, anywhere



 KOMTRAX is standard equipment on all Komatsu construction products









For construction and compact equipment.

For production and mining class machines.

SPECIFICATIONS



ENGINE

Model	
Type	
AspirationTurbo-charged, a	after-cooled, cooled EGR
Number of cylinders	6
Bore	125 mm 4 9"
Stroke	
Piston displacement	11.04 ltr 674 in ³
Governor	All-speed, electronic
Horsepower:	
SAE J1995	Gross 224 kW 301 HP
ISO 9249 / SAE J1349	Net 223 kW 299 HP
Rated rpm	2000 rpm
Fan drive method for radiator cooling	
Fuel system	Direct injection
Lubrication system:	
MethodGea	r pump, force-lubrication
Filter	Full-flow type
Air cleaner Dry type v	vith double elements and uator, plus dust indicator

*EPA Tier 4 Final emissions certified



TRANSMISSION

Travel speed	Forward*	Reverse*		
1st	7.3 km/h 4.5 mph	7.5 km/h 4.7 mph		
2nd	12.7 km/h 7.9 mph (13.3 km/h 8.3 mph)	13.1 km/h 8.1 mph (13.8 km/h 8.6 mph)		
3rd	22.2 km/h 13.8 mph (23.8 km/h 14.8 mph)	22.9 km/h 14.2 mph (24.5 km/h 15.2 mph)		
4th	35.4 km/h 22.0 mph (38.5 km/h 24.0 mph)	36.6 km/h 22.7 mph (39.0 km/h 24.2 mph)		
*P-mode Measu	red with 26.5-R25 tires	(): Lock-up clutch ON		

||| • |||

AXLES AND FINAL DRIVES

Drive system	Four-wheel drive
Front	Fixed, semi-floating
Rear	Center-pin support, semi-floating,
	26° total oscillation
Reduction gear	Spiral bevel gear
Differential gear	Conventional type
Final reduction gear	Planetary gear, single reduction



BRAKES

Service brakes	Hydraulically actuated,
wet	disc brakes actuate on four wheels
Parking brake	Wet disc brake
Emergency brake	Parking brake is commonly used



STEERING SYSTEM

Type Ar	ticulated type, fully-l	hydraulic power steering
		on (40° to max end stop)
Minimum turning ra		,
the center of outsid	le tire	6620 mm 21 01



HYDRAULIC SYSTEM

Steering system:
Hydraulic pump Piston type
Capacity 195 ltr/min 51.5 U.S. gal/min at rated rpm Relief valve setting 24.5 MPa 250 kgf/cm ² 3,555 psi Hydraulic cylinders:
Type Double-acting, piston type
Number of cylinders
Bore x stroke
Loader control:
Hydraulic pump Piston pump
Capacity 260 ltr/min 68.7 U.S gal/min at rated rpm
Relief valve setting 34.3 MPa 350 kgf/cm ² 4,980 psi
Hydraulic cylinders:
Type Double-acting, piston type Number of cylinders—bore x stroke:
Lift cylinder
Bucket cylinder 1- 180 mm x 572 mm 7.1" x 22.5"
Control valve 2-spool type
Control positions:
Boom Raise, hold, lower, and float
BucketTilt-back, hold, and dump Hydraulic cycle time (rated load in bucket)
Raise 6.4 s
Dump
Lower (Empty)

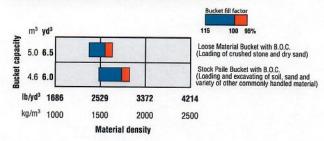


SERVICE REFILL CAPACITIES

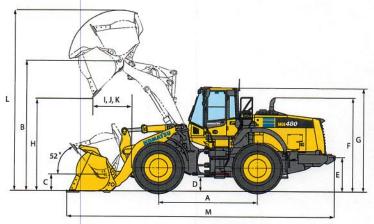
Cooling system 81 ltr	21.4 U.S. gal
Fuel tank 380 ltr	
Engine 38 ltr	
Hydraulic system173 ltr	45.7 U.S. gal
Axle front 59 ltr	15.6 U.S. gal
Axle rear 59 ltr	15.6 U.S. gal
Torque converter and transmission 65 ltr	17.2 U.S. gal
DEF tank	



BUCKET SELECTION GUIDE



DIMENSIONS



Tread	2300 mm	7'7"
Width over tires	3010 mm	9'11"
A Wheelbase	3450 mm	11'4"
B Hinge pin height, max. height	4505 mm	14'9"
C Hinge pin height, carry position	585 mm	1'11"
D Ground clearance	525 mm	1'9"
E Hitch height	1210 mm	4'0"
F Overall height, top of the stack	3220 mm	10'7"
G Overall height, ROPS cab	3575 mm	11'9"

Measured with 26.5-R25(L3) Tires, ROPS/FOPS cab

		General Purpose Bucket Pin On	Loose Material Bucket Pin On
		Bolt-on Cutting Edge	Bolt-on Cutting Edge
	Bucket capacity: heaped	4.6 m ³	5.0 m ³
		6.0 yd ³	6.5 yd ³
	struck	4.0 m ³	4.3 m ³
		5.2 yd ³	5.6 yd3
	Bucket width	3170 mm	3170 mm
		10'5"	10'5"
	Bucket weight	2387 kg	2458 kg
		5,262 lb	5,419 lb
H II	Dumping clearance, max. height	3165 mm	3095 mm
	and 45° dump angle*	10'5"	10'2"
1	Reach at max. height and	1440 mm	1530 mm
	45° dump angle*	4'9"	5'0"
J	Reach at 2130 mm 7' clearance	2165 mm	2205 mm
	and 45° dump angle*	7'1"	7'3"
K	Reach with arm horizontal and	3080 mm	3180 mm
	bucket level*	10'1"	10'2"
L	Operating height (fully raised)	6280 mm	6375 mm
		20'7"	20'11"
M	Overall length (bucket on ground)	9375 mm	9475 mm
		30'9"	31'1"
	Loader clearance circle (bucket at carry,	15420 mm	15475 mm
	outside corner of bucket)	50'7"	50'9"
	Digging depth: 0°	90 mm	90 mm
		3.5"	3.5"
	10°	365 mm	385 mm
		14"	15"
	Static tipping load: straight	19050 kg	18945 kg
		41,998 lb	41,767 lb
	40° full turn	16565 kg	16465 kg
	0.0000000000000000000000000000000000000	36,520 lb	36,299 lb
	Breakout force	206 kN	193 kN
		21000 kgf	19700 kgf
		46,297 lbf	43,431 lbf
	Operating weight	25520 kg	25590 kg
		56,262 lb	56,416 lb

^{*}At the end of tooth or B.O.C.E. (Bolt on cutting edge)

All dimensions, weights, and performance values based on ISO 7131, ISO 14397-1 and ISO 7546 standards. Static tipping load and operating weight shown include lubricant, coolant, full fuel tank, ROPS cab, and operator. Machine stability and operating weight affected by counterweight, tire size, and other attachments.



WEIGHT AND DIMENSION CHANGES

Tires or attachments		Operating weight kg lb			Tipping load full turn		Width over tires		Ground clearance		Change in vertical dimensions	
	kg	lb	kg	lb	kg	lb	mm	in	mm	in	mm	in
26.5-25-20PR(L-4)	+340	+750	+239	+527	+211	+465	3010	119	525	21	0	0
Remove additional counterweight	-378	-833	-924	-2037	-769	-1695						



STANDARD EQUIPMENT

- 2-spool valve for boom and bucket control
- Alternator, 90 A
- Auto shift transmission with mode select
- Automatic Digging System
- Automatic hydraulic-driven fan with automatic reverse rotation
- Back-up alarm
- Batteries, 140 Ah/12V (2), 930 CCA
- Battery disconnect with lockout
- Boom Kick-out, in-cab adjustable
- Bucket Positioner, in-cab adjustable, 3 positions
- Color rear view camera and monitor
- Counterweight, standard and additional Electronically Controlled Suspension
- System (ECSS) Engine, Komatsu SAA6D125E-7 diesel
- Engine shut-off system, electric
- EPC fingertip controls with F-N-R switch, two levers
- Equipment Management Monitoring System (EMMS)
 - Lights (central warning, brake oil pressure, engine oil pressure, parking brake, cooling fan reverse, KDPF restriction, seat belt caution, Komtrax

- Gauges (Engine water temperature, ecology, fuel level, DEF level, hydraulic oil temperature, speedometer/tachometer)
- Front fenders
- Fuel pre-filter with water separator
- Horn, electric
- Integrated Load Meter (2 lever only)
- Komatsu SmartLoader Logic
- Komatsu Auto Idle Shutdown
- KOMTRAX® Level 5
- Lift cylinders and bucket cylinder
- Lights
- Back-up light, LED
- Stop and tail light, LED
- Turn signal lamps, 2 front and 2 rear with hazard switch
- Working lights, halogen, 2 front cab mount
- Working lights, halogen, 2 front fender mount
- Working lights, halogen, 2 rear grill mount
- Loader linkage with standard lift arm
- Lock-up torque converter
- Parking brake, electric
- Radiator, wider core
- Radiator mask, swing out
- Rear full fenders
- Rear view mirrors, outside (2) inside (2)
- Rims for 26.5-25 tires

- ROPS/FOPS Cab Level 2
- 2 x DC12V electrical outlets
- Ashtray
- Auto air conditioner
- Cigarette lighter, 24V
- Color LCD/TFT multi-monitor
- Cup holder
- Floor mat
- Operator seat, reclining, air suspension type,
- Radio, AM/FM with AUX input jack
- Rear defroster, electric
- Seatbelt, 2-point retractable, 76mm 3" width
- Space for Lunch box
- Steering wheel, tilt and telescopic
- Sun visor, front window
- Windshield washer and wiper, front with intermittent
- Windshield washer and wiper, rear
- Service brakes, wet disc type
- Starting motor, 7.5 kW
- Transmission, 4 forward and 4 reverse
- Vandalism protection kit, padlocks for battery box (2)



OPTIONAL EQUIPMENT

- Advanced Joystick Steering System (AJSS)
- Auto Lube System
- Auxiliary steering (SAE)
- Block heater and oil pan heater
- Cutting edge (bolt-on type)
- Engine pre-cleaner with extension
- Limited slip differential (F&R)
- Load Meter Printer (2 lever only)
- Monolever loader control with transmission F-N-R switch (not compatible with AJSS)
- Various tire options, radial and bias
- Various bucket options



AESS930-02

©2018 Komatsu America Corp.

Printed in USA

AD10(2.5M)OTP

10/18 (EV-1)

Note: All comparisons and claims of improved performance made herein are made with respect to the prior Komatsu model unless otherwise specifically stated.

www.komatsuamerica.com

Komatsu America Corp. is an authorized licensee of Komatsu Ltd. Materials and specifications are subject to change without notice

Distributor:	Linder Machinery
Item # 196	

KOMATSU WA480-8 Wheel Loader

BUILD SHEET

Engine and related items:

Air cleaner, dry-type, two stage, radial sealed
Engine shut-off system, electric with key
Engine Komatsu SAAB0125E-7, 6 cylinder, turbocharged

Engine, Komatsu SAA6D125E-7, 6 cylinder, turbocharged, air to air after cooled, cooled EGR, direct injection Tier 4 Final emissions certified, diesel

Gross HP: 301 HP (244 kW) / 2000 RPM (SAE J1995)

Net HP: 299 HP (223 kW) / 2000 RPM (ISO 9249 / SAEJ 1349)

Exhaust pipe, curved

Fan, auto-reversing, hydraulic-driven

KDPF - After-Treatment Assembly Consisting of KDOC and KCSF

Selective Catalytic Reduction (SCR) Assembly

Komatsu Auto Idle Shutdown

Starting aid, intake manifold preheater

Two mode engine power select system

Electrical system:

Alternator, 90 ampere, 24 volt

Back-up alarm

Batteries, 2 x 12 volt (150 Ah) (1000 CCA)

Battery disconnect switch

Horn, electric

Lights

- · Back-up light, rear, LED
- · Stop and tail, LED
- Turn signal, (2 front, 2 rear) with hazard switch
- Working lights, halogen (2 front, high low beam with indicator, fender mount, 2 rear grill mount
- · Working lights, halogen (2 front) outside of cab mount

Sealed DT electrical connectors

Starting motor, 7.5kW direct electric, 24V

Power Train and Controls:

Differentials, conventional, inboard planetary

Lock-up torque converter

Parking brake, wet multiple disc

Service brakes, hydraulic, wet multiple disc,

axle by axle (inboard)

Transmission control, electric with kick-down switch

Transmission, full power shift automatic, F4-R4

softshift, countershaft with four mode select system

Operator environment:

Cab, (ROPS/FOPS) (installed), includes; adjustable arm rests, adjustable work equipment levers, cigarette lighter/ashtray, dome light, electrically heated rear window, air conditioner / heater / defroster / pressurizer, floor mat, front (intermittent) and rear wiper/washer, rearview mirrors (2 outside, 2 inside), right hand and left hand door access with steps and sunvisor

Hydraulic control, 2 spool (boom/bucket), 2 lever

EPC fingertip control

Monitor, 7 inch, LCD, color

Radio, AM/FM with speakers and auxiliary jack

Rear view monitor

Seat, heated air suspension type, reclining with armrests (fabric)

Seat belt, 3" width, retractable

Steering wheel, tiltable, telescopic

BUCKET:

5.75 yd GP w/ Bolt on Edge

- · Hydraulic oil temperature
- · Speedometer / Tachometer
- Torque Converter Temperature
- · Head lamp high beam
- · KDPF restriction indicator
- Komtrax message
- · Parking brake warning
- · Seat belt caution
- · Shift hold
- · Steering oil pressure
- · Torque converter lock-up
- Transmission speed range
- Turn signal
- · Work equipment lock warning