



FLORIDA SHERIFFS ASSOCIATION BID FSA20-EQU18.0
ITEM #40 TELESCOPIC WHEELED EXCAVATOR

XL4100 6X6 Excavator Base Machine
80655007 Bucket-Ditching 60"
80789080 Fire Extinguisher 10# with Cover
80785044 Travel Alarm Adjustable
80785042 Seat Belt Upper

GRADALL®

XL 4100 V

HYDRAULIC EXCAVATOR



XL 4100 V HIGHWAY SPEED WHEELED EXCAVATOR

SPECIFICATIONS

Engine

- Volvo TAD871VE Tier 4f 7.7L diesel with selective catalytic reduction and cooled EGR technology

Gross Rating: 248 hp @ 2200 rpm, 848 ft lb torque @ 1200-1400 rpm

Net Rating: 228 hp @ 2200 rpm

- Four cycle, inline six cylinder, liquid cooled
- Turbo charge air after-cooled
- Off-road certified, electronically controlled, grid heater
- Vertical canister style lube and main filters attached to engine
- Volvo remote mount vertical style fuel/water separator with water in fuel indicator, alarm and manual feed pump
- Block heater

Air Filter

- Two-stage Donaldson PSD PowerCore with high efficiency pre-cleaner, vacuator valve and remote service indicator

Electrical System

- 24 volt, 110 amp alternator with integral voltage regulator, two SAE #C31-S 1000 CCA batteries

Fuel Tank Capacity: 100 gal (378 L)

Urea Tank Capacity: 11.9 gal (45 L)

Chassis Cooling Package

- Three aluminum bar-plate type coolers stacked vertically
- Air to air intake charge air cooler, radiator and transmission cooler
- All coolers backed by a molded fan shroud, engine mounted fan ring and 26.8" 9-blade fan driven by a Volvo electronically controlled variable speed fan drive

Gear Speeds

Gear	1	2	3	4	5	6	REV
MPH	6.3	16.2	24.1	37.4	50.6	59.9	6.6
Km/hr	(10.1)	(26.1)	(38.8)	(60.2)	(81.4)	(96.4)	(10.6)

Drivelines

- Spicer 1710 Series with "half round" yokes

Transfer Case

- (6 x 4) Cushman Model 479-1, 1:1 ratio, pneumatic engage for remote propel
- (6 x 6) Cushman Model 479A-1, 1:1 ratio, pneumatic engage for remote propel and front drive

Upperstructure Cab

- All-weather cab isolated from frame on rubber mounts
- Tinted safety glass windows
- Skylight
- Acoustical lining
- Four-way adjustable seat
- Dome light
- Filtered air heater and defroster
- AM/FM radio
- Air conditioning
- LED work light package
- Heat source provided by a fast response, closed circuit hydraulic heater with 20,000 BTU/Hr. capacity
- Front window slides to overhead storage
- Mirrors on right and left sides
- Windshield wiper and washer
- Operator's seat belt

Upperstructure Controls

- Two electronic joysticks (hoist and bucket, telescope and swing)
- One rocker switch (tilt) control
- Joysticks mounted on arm pods, adjustable for individual operator comfort and convenience
- Quick change joystick pattern switch (Gradall, SAE, Deere) located on instrument panel
- Two foot pedals for remote control of undercarriage steering
- Travel and digging brakes
- Self-centering joysticks and pedals; when controls are released, power for movement disengages and swing and travel brakes set automatically

Engine Controls:

- Key ignition switch with neutral start
- Indicator lights for low air, engine status, park brake, travel status, hydraulic fluid temperature and level
- Automatic engine shutdown occurs with low oil pressure
- Derate/shutdown for oil temperature, coolant temperature, coolant level, ERD temperature, charge air temperature, charge air pressure and derate for SCR temperature

Boom

- Two piece triangular telescoping boom
- Adjustable boom rollers with eccentric shafts
- 220° boom tilt
- 105° boom pivot angle
- Auxiliary hydraulics

Hydraulic System

Pumps

- One load-sensing axial piston pump, 0-77 gpm (0-291 L/min) total
- One gear pump (pilot and cooling), 11 gpm (41 L/min)

SYSTEM SPECIFICATIONS

Four Double Acting Cylinders

- One boom cylinder: 3.5" (89 mm) bore x 2.56" (65 mm) rod x 150" (3.81 m) stroke
- Two hoist cylinders: 4.25" (108 mm) bore x 3.15" (80 mm) rod x 31" (787 mm) stroke
- One tool cylinder: 5.0" (127 mm) bore x 3.0" (76 mm) rod x 25.9" (658 mm) stroke

Three Hydraulic Motors

- Swing, 64 hp (48 kW)
- Tilt, 21 hp (16 kW)
- Remote drive, 110 hp (82 kW) total

Operating Pressures

- Hoist.....4,800 psi (331 BAR)
- Tilt.....2,500 psi (172 BAR)
- Swing.....4,200 psi (290 BAR)
- Tool.....4,800 psi (331 BAR)
- Telescope.....4,800 psi (331 BAR)
- Remote Propel.....4,800 psi (331 BAR)
- Pilot system.....500 psi (35 BAR)

Oil Capacity

- Reservoir 50 gallons (189 L)
- System 70 gallons (265 L)
- Pressurized reservoir with visual oil level gauge

Filtration System

- 5 micron return filter with magnet
- 10 micron pilot filter
- Fin and tube-type oil cooler with thermostatically controlled cooling fan
- Pressure-compensated, load-sensing valves with circuit reliefs in all circuits

Undercarriage

- 6 x 4 or 6 x 6
- Wheelbase: 171" (4.34m)
- Width 102" (2.6m)

Transmission

- Allison 3500 RDS 6-speed automatic

Frame

- 48" (1.2m) wide, welded plate design
- 65 ksi material

Gross Vehicle Axle Weight Rating:

- 6 x 4 - 66,000 lb (29,937 kg)
- 6 x 6 - 69,000 lb (31,928 kg)

Front Axles

- 6 x 4: Meritor Model MFS-16-122A, 16,000 lb (7,257 kg) rating
- 6 x 6: Meritor Model MX19-145, 19,000 lb (8,618 kg) rating, 7.17 ratio

Rear Axle

- Meritor Model RT-50-160, 50,000 lb (22,680 kg) rating, 7.17 ratio
- Single reduction with driver controlled differential lock in front/rear
- Inter-axle differential with lock

Suspension

- Front: Eight leaf spring with automatic lock-out cylinders
- Rear: Hendrickson Equalizer Beam, 8" oscillation

Brakes

- 6 x 4 Front: Meritor "Q" Plus Series
 - Cam-Master Size: 16.5" x 5" (419 mm x 152 mm)
 - Automatic slack adjusters
- 6 x 6 Front: Meritor "Q" Series
 - Cam-Master Size: 16.5" x 6" (419 mm x 127 mm)
 - Automatic slack adjusters
- Rear: Meritor "P" Series
 - Cam-Master Size: 16.5" x 7" (419 mm x 178 mm)
 - Automatic slack adjusters
- Spring brake system incorporates emergency and parking brakes on rear axle
- Heated air dryer

Steering

- Ross, integral hydraulic power steering
- Gear-type power steering pump
- Four-quart power steering reservoir with filter
- 10 micron pre-filter

Wheels

- Hub piloted disc
- 10-stud, 11.25" (286 mm) bolt circle

Tires

- 6 x 4 front: 385/65R22.5 LR (J) on/off highway tread
- 6 x 6 front: 425/65R22.5 LR (L) on/off highway tread
- 6 x 4 and 6 x 6 rear: 11R24.5 LR (H) on/off highway tread

Standard Chassis Equipment

- LED headlights
- LED tail lights
- LED back-up lights and alarm
- LED brake lights
- LED identification lights front and rear
- LED directional lights
- LED four-way hazard lights
- Instrument panel lights
- Windshield wiper/washer
- West Coast style mirror system with plain and convex mirrors
- Front and rear tow hooks
- Desiccant type air dryer with automatic purge valve and thermostatically controlled heater

Chassis Cab

- One-person cab
- Left-hand mount
- Isolated from frame on rubber mounts
- Acoustical lining
- Sun visor
- Air conditioning

Gauge Clusters

- Oil pressure
- Coolant temperature
- Air tank pressures
- Fuel level
- DEF level

- Voltmeter
- Speedometer with odometer
- Tachometer with hour meter
- Engine and transmission monitor lights
- Engine shutdown controlled by engine electronics
- Indicator lights and controls for front axle engagement (6 x 6 only) and rear axle differential lock
- Park brake control
- Tinted safety glass
- Sliding side windows
- Fresh air heater and defroster
- Dome light
- Air suspension seat with seat belt
- Vent in door

Swing

- Internal swing gear
- Priority swing circuit with axial piston motor
- Planetary transmission

Swing Speed: 8.0 rpm

Swing Brake:

- Automatic spring-set/hydraulic release wet disc parking brake
- Dynamic braking provided by hydraulic system

Hydraulic Remote Control

- Upperstructure powered by chassis hydraulics through hydraulic motor and transfer case
- Travel and steering pedals in upperstructure cab
- Digging brakes and front axle lockout cylinders set automatically with travel pedal in neutral
- Parking brake controlled by toggle
- Electrically operated alarm mounted on undercarriage signals remote control movement in either direction, reverse movement when driven from undercarriage cab

Function Forces

Rated Boom Force: 21,940 lbs (97.6 kN)

Rated Bucket Breakout Force: 24,900 lbs (111kN)

■ Shaded areas are stability rated based on machine with 0 lb. bucket.

The rated lift capacity is based on the machine being equipped with 8,850 lbs (4014 kg) counterweight, standard boom and no bucket.

The load point is located on the bucket pivot point, including load listed for maximum radius.

Do not attempt to lift or hold any load greater than these rated values at specified load radii and heights. The weight of slings and any auxiliary devices must be deducted from the rated load to determine the net load that may be lifted.

ATTENTION: All rated loads are based on the machine being stationary and level on a firm supporting surface. For safe working loads, the user must make allowance for his particular job conditions such as soft or uneven ground, out of level conditions, side loads, hazardous conditions, experience of personnel, etc. The operator and other personnel must be fully trained and understand the Operator's Manual and Safety Manuals furnished by the manufacturer before operating this machine. Rules for safe operation of equipment must be adhered to at all times.

GRADALL Model XL 4100 V Lift Capacity Over Side or Rear - LBS (KG)

LOAD POINT HEIGHT		LOAD RADIUS										
		10' 0" (3.0 m)		15' 0" (4.6 m)		20' 0" (6.1 m)		25' 0" (7.6 m)		Max. radius		
		Over End	Over Side	Over End	Over Side	Over End	Over Side	Over End	Over Side		Over End	Over Side
ABOVE GROUND LEVEL	20' 0" (6.1 m)									23' 5" (7.1m)	4795 (2175)	4795 (2175)
	15' 0" (4.6 m)			9935 (4505)	9935 (4505)	6915 (3135)	6915 (3135)	5030 (2280)	5030 (2280)	25' 10" (7.9m)	4785 (2170)	4785 (2170)
	10' 0" (3.0 m)			11710 (5310)	11400 (5170)	7775 (3525)	7280 (3300)	5520 (2505)	5055 (2295)	27' 0" (8.2m)	4860 (2205)	4420 (2005)
	BOOM LEVEL 8' 8" (2.7 m)			12000 (5445)	11310 (5130)	7920 (3590)	7235 (3280)	5605 (2540)	5030 (2280)	27' 2" (8.3m)	4885 (2215)	4355 (1975)
	5' 0" (1.5 m)			12130 (5500)	11005 (4990)	8065 (3660)	7085 (3215)	5725 (2595)	4940 (2240)	27' 2" (8.3m)	4980 (2260)	4275 (1940)
AT GROUND LEVEL				10750 (4875)	10585 (4800)	7640 (3465)	6865 (3115)	5575 (2530)	4810 (2180)	26' 5" (8m)	5135 (2330)	4390 (1990)
BELOW GROUND LEVEL	5' 0" (1.5 m)	9650 (4375)	9650 (4375)	8590 (3895)	8590 (3895)	6700 (3040)	6670 (3025)			24' 5" (7.5m)	5285 (2395)	4860 (2205)
	10' 0" (3.0 m)	6325 (2870)	6325 (2870)	6565 (2980)	6565 (2980)	5595 (2540)	5595 (2540)			21' 1" (6.4m)	5360 (2430)	5360 (2430)
	15' 0" (4.6 m)	4175 (1895)	4175 (1895)	4940 (2240)	4940 (2240)					15' 2" (4.6m)	4940 (2240)	4940 (2240)

Weight

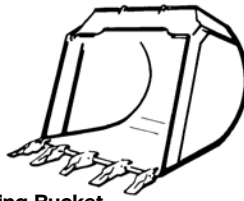
- Approximate working weight, fuel tank half full
 - 6 x 4: 49,684 lbs (22,539 kg)
 - 6 x 6: 50,925 lbs (23,099 kg)

Optional Equipment

- Vandalism protection kit including window covers
- Strobe light
- Tilt steering column

Attachments

- Quick change and reversible buckets fabricated using steel plate with high strength, low alloy cutting edges and wear strips
- Standard attachments available for wide range of applications
- Capacities shown are in heaped cubic yard



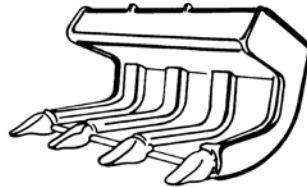
Excavating Bucket

		yd ³	m ³
8045-6020	24" (610mm) 603 lbs (274 kg)	3/8	0.31
8045-6021	30" (762mm) 660 lbs (300 kg)	1/2	0.41
8045-6022	36" (914mm) 741 lbs (336 kg)	5/8	0.54
8045-6023	42" (1,07m) 841 lbs (382 kg)	3/4	0.64
8045-6024	48" (1,22m) 957 lbs (434 kg)	1	0.76



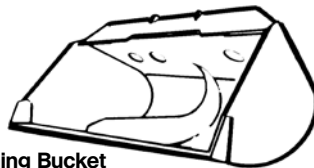
Trenching Bucket

		yd ³	m ³
8065-6104	15" (381mm) 897 lbs (407 kg)	1/5	0.15
8065-6012	21" (533mm) 982 lbs (445 kg)	1/4	0.19



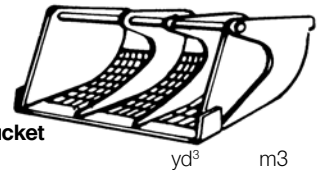
Pavement Removal Bucket

8065-6102	40" (1.0 m) 1262 lbs (573 kg)
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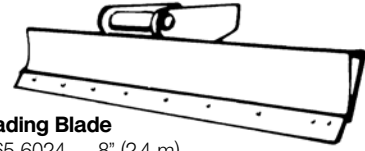
Ditching Bucket

		yd ³	m ³
8065-6007	60" (1.52m) 807 lbs (366 kg)	7/8	0.73
8065-6006	66" (1.68m) 892 lbs (405 kg)	1	0.76
8065-6002	72" (1.83m) 944 lbs (428 kg)	1 1/8	0.87



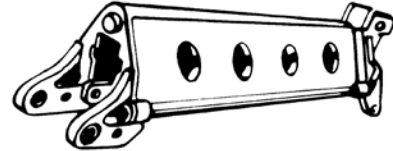
Dredging Bucket

		yd ³	m ³
8065-6013	72" (1.83m) 1114 lbs (505 kg)	1 1/8	0.87



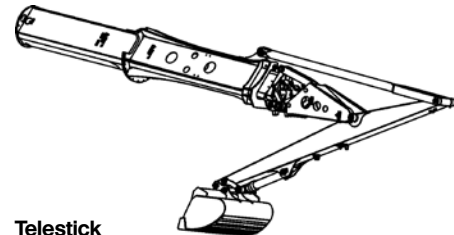
Grading Blade

8065-6024	8" (2.4 m) 630 lbs (285 kg)
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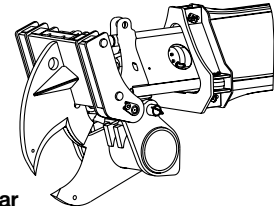
Boom Extension

8065-5028	4' (1.2 m) 1,090 lbs (495 kg)
8065-5029	6' (1.8 m) 1,250 lbs (560 kg)
8065-5030	8' (2.4 m) 1,389 lbs (631 kg)



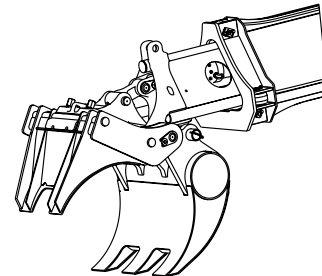
Telestick

8075-5045	3,600 lbs (1,633 kg)
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Tree Limb Shear

8045-5052	1,948 lbs (884 kg)
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Fixed Thumb Grapple

8075-5023	1,574 lbs (714 kg)
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It is Gradall Policy to continually improve its products. Therefore designs, materials and specifications are subject to change without notice and without incurring any liability on units already sold. Units shown may have optional equipment.

GRADALL®

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www.Gradall.com

Model Options

XL4100 V 6X6

Upperstructure

80365046	2.5 # Cab Mounted Fire Extinguisher
80725014	360 Degree Boom Tilt
80729002	Aux Tube Adapter
80705003	Aux. Hyd. Plumbing - w/ Cylinder Spool 80739025
80769125	Beacon Light - "GREEN" -LED- Upper - w/Branch Guard
80769125	Beacon Light- "GREEN" -LED- Upper - w/o Branch Guard
80769025 & 80769076	Beacon Light -LED- Upper - w/Branch Guard
80769025	Beacon Light-LED- Upper - w/o Branch Guard
80769092	Camera System - Split Screen
80739033	Case Drain
	CE Certification Documents
80465068	Cigarette Lighter - Upper
80789081	Dual Note Electrical Horn
	Engine Volvo Penta Stage V TAD581 173 HP
80505005	Escape Hammer
80865008	Fire Extinguisher 10# - Upper
80483281	First Aid Kit
80765083	Foot Pedal Operated Auxiliary Hydraulics - Uni-Directional Flow
80365084	Front Window Guard (Hinged) - Upper Cab
80769077	Front Window Guard (Rigid)- Upper Cab
80769127	HALO Lighting
80509037	Heated Mirrors - Wiring Only - Remote Directional Control - Upper
80465083	Hourmeter In Upper Cab
80735010	Low Pressure Aux. Return To Tank
80769083	Lube Chart - Upper, Permanent Outside & Visible
	Paint, Special, One Color, Black Cabs (Please Provide RAL # to factory)
	Paint, Special, One Color, Including Cabs (Please Provide RAL # to factory)
80769037	Power Supply Wire End Terminals For Power & Ground 12VDC (20 Amp) - Upper
82175006K	Rexroth Bodas Software & Cable Kit
80769048	Roof Guard For Upper Cab - Bars
80785042	Seat Belt Upper w/Shoulder Restraint
80465058	Sun Visor - Upper Cab
80763114	Vandal Cover - Upper Cab
80705007	Wheel Lug Wrench Set

Chassis

80789075	Power Supply W/ Cigarette Lighter Socket Type 12V - Chassis
80789108	Power Supply Wire End Terminals For Power & Ground 12VDC (20 Amp) - Chassis
80783297	315 HP Engine with Engine Brake
80385167	Air Restriction Gauge - Chassis Cab - " The Informer "
X3105065	Air Restriction Gauge - Chassis Cab (Note: Drawing Needs Revised)
80789070	AM/FM Stereo Radio With Weatherband - Chassis
80483243	Battery - Interstate Optima - Maintenance Free - Spiral Wound Cells
80789216	Beacon Light -"GREEN" -LED - Chassis - w/Branch Guard
80789216	Beacon Light- "GREEN" -LED- Chassis - w/o Branch Guard
80789180 & 80769076	Beacon Light -LED- Chassis - w/Branch Guard
80789180	Beacon Light-LED- Chassis - w/o Branch Guard
80789068	Bucket Carrier Assembly
80769059	Camera System - Chassis
80783411	DEF Tank Cap - Locking w/Key
80789081	Dual Note Electrical Horn
80505006	Escape Hammer
80789080	Fire Extinguisher 10# - Chassis With Cover
	GVWR Plate On Chassis Door
80789071	Heated Mirrors - Chassis
80789062	Intermittent Wiper Switch - Chassis
80485043	Left Hand Rear Step
80789188	License Plate Bracket - Front & Rear Lit
80885029	License Plate Brackets - Rear Lit - Front Unlit
80789116	Lights 8 LED Flashing 24V - All 4 Corners
80789178	Lube Chart - Chassis, Permanent Outside & Visible
80385057	Protecto - Seal Locking Fuel Cap W/ Key
80785042	Seat Belt Chassis w/Shoulder Restraint

80785136	Spare Front Tire / Wheel Assembly
80785134	Spare Rear Tire / Wheel Assembly, Goodyear - 11R/24.5
80789158	Spark Arrestor
80789203	Stabilizers - Rear Mounted
80385147	Tilt Steering Column - Chassis
80785044	Travel Alarm - Adjustable Volume
80789077	Twin Air Horns - Chassis
80783250	Vandal Cover Installation - Chassis

Attachments

80455049	24" Ditching Bucket with Bolt on Cutting Edge
06200851	50" Tiger Flail Mower
06102600	50" Tiger Rotary Mower \$11,250.00 80656132 60" Dredging Bucket
80656037	Attachment Adapter - Blank
80655036	Aux. Hyd. Hoses For 12 Ft. Boom Extension
80655033	Aux. Hyd. Hoses For 4 Ft. Boom Extension
80655034	Aux. Hyd. Hoses For 6 Ft. Boom Ext.
80655035	Aux. Hyd. Hoses For 8 Ft. Boom Extension
80755034	Boom Extension - 7' Adjustable Angle
80655028	Boom Extension - 4 Ft. w/o Aux Hoses
80655029	Boom Extension - 6 Ft. w/o Aux. Hoses \$10,250.00
80655030	Boom Extension - 8 Ft. w/o Aux Hoses \$11,000.00
80785122	Boom Rest for Telestick
80656064	Bucket - 42" Excavating -w/o Teeth
80656092	Bucket - 60" Ditching w/Bolt-On Cutting Edge
80656093	Bucket - 66" Ditching - w/Bolt-On Cutting Edge
80656040	Bucket - Ditching - 30"
80656058	Bucket - Ditching - 48"
80655037	Bucket - Ditching - 48" w/ Bolt-On Cutting Edge
80656007	Bucket - Ditching - 60"
80656034	Bucket - Ditching - 60" Constant Radius
80656006	Bucket - Ditching - 66" Constant Radius
80656002	Bucket - Ditching - 72"
80656118	Bucket - Ditching - 72" (1.6 Cu. Yd.)
80656094	Bucket - Ditching - 72" W/ Bolt On Cutting Edge
80656029	Bucket - Dredging - 108"
80656013	Bucket - Dredging - 72"
80556011	Bucket - Dredging Bucket 60" for Telestick
80456020	Bucket - Excavating - 24"
80456021	Bucket - Excavating - 30"
80456022	Bucket - Excavating - 36"
X4106093	Bucket - Excavating - 36" w/5 Teeth
80456023	Bucket - Excavating - 42"
80456024	Bucket - Excavating - 48"
80456064	Bucket - Excavating - 60"
80656065	Bucket - Excavating 24" w/o Teeth
80656086	Bucket - Excavating 36" w/o Teeth
80656115	Bucket - Pavement Removal - 18" (Curbing)
80656116	Bucket - Pavement Removal - 24" (Curbing)
80656114	Bucket - Pavement Removal - 28"
80656102	Bucket - Pavement Removal - 40"
80656119	Bucket - Pavement Removal - 48"
80656012	Bucket - Trenching - 21"
80755003	Conveyor Bucket (2184 MM) - Pin On
80755002	Conveyor Bucket (2800 MM) - Pin On
80385171	Emergency Kit - Flares & Triangles
80756028	Excavating Bucket - 18"
80755023	Fixed Thumb Grapple
80656024	Grading Blade - 8 Ft.
80656035	Guardrail Clean-Out
80455052	Limb Shear
80759012	Rammer Hammer 999 Installation - Bucket Adapter
80756038	Ripper - Single Tooth - Bucket Adapter Style
80789105	Telestick Boom Extension w/Boom Rest (80785122) & Bucket
80656104	Trenching Bucket - 15"

Manual Instructions

Extra Set Of Keys (4): (2) 77384578 Ignition & (2) 91144470 Door & Covers

Printed Set Of Parts, Service & Operator's Manuals