⚠WARNING

Study This Manual Before Starting The Machine

You must understand and follow the instructions in this handbook. You must observe all relevant laws and regulations. If you are unsure about anything, ask your JCB distributor or employer. **Do not guess**, you or others could be killed or seriously injured.

INT-1-1-1

⚠CAUTION

Do not fit an attachment to this machine which is not JCB approved. Consult your JCB distributor before fitting any non approved attachment.

8-4-1-6

In this manual and on the machine there are safety notices. Each notice starts with a signal word. The meanings of the signal words are given below.

⚠DANGER

Denotes an extreme hazard exists. If proper precautions are not taken, it is highly probable that the operator (or others) could be killed or seriously injured.

INT-1-2-1

⚠WARNING

Denotes a hazard exists. If proper precautions are not taken, the operator (or others) could be killed or seriously injured.

INT-1-2-2

⚠CAUTION

Denotes a reminder of safety practices. Failure to follow these safety practices could result in injury to the operator (or others) and possible damage to the machine.

INT-1-2-3

CALIFORNIA

Proposition 65 Warning

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

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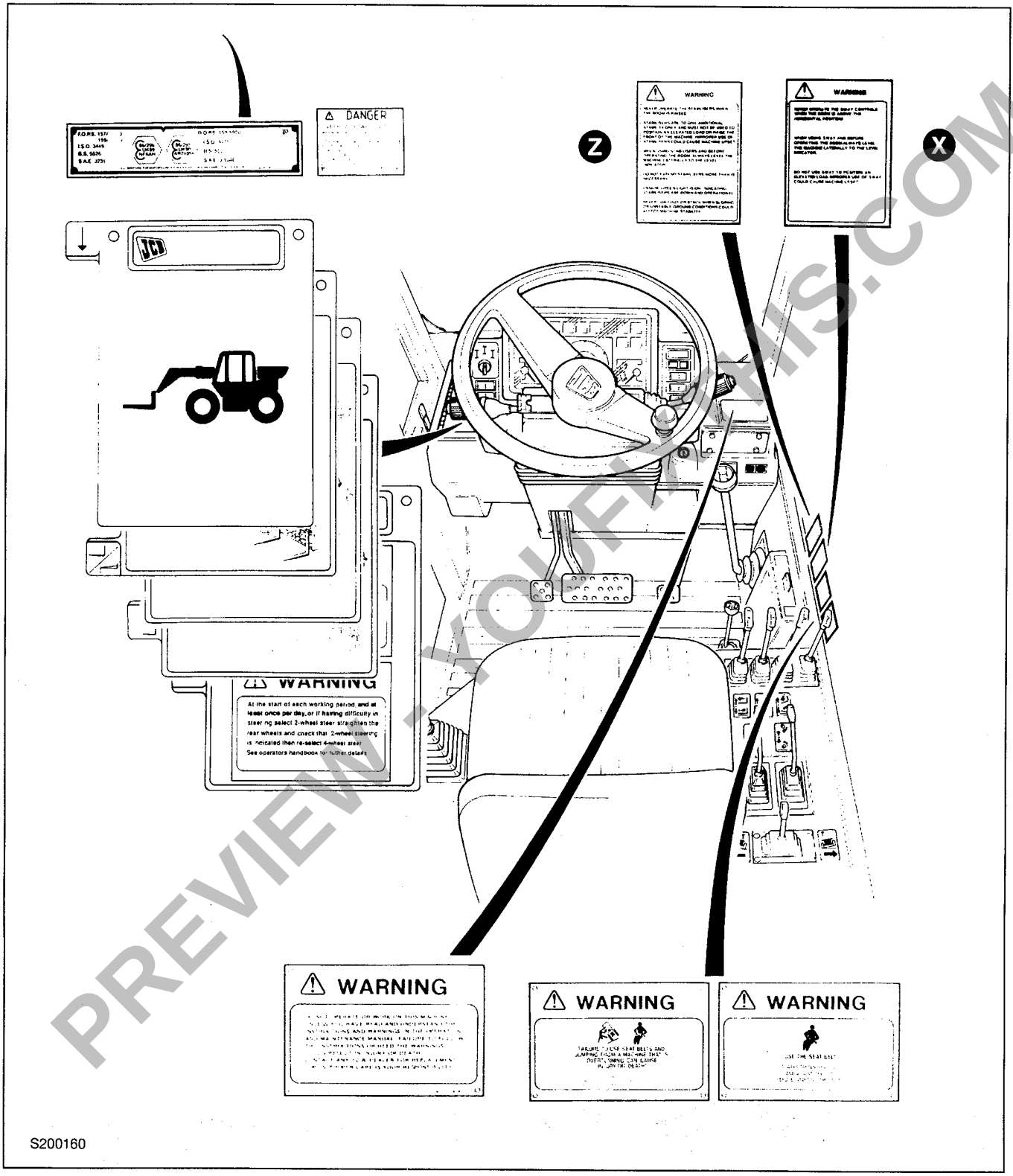
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SAFETY DECALS
(continued)



***Notice**: Decal **X** is on sway machines only. Decal **Z** is on stabilizer machines only.*

***Notice**: The decals shown are representative and vary according to each machine. Consult your Parts Book for the correct part when ordering a replacement.*

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BOOM AND CARRIAGE CONTROLS (continued)

Extend Boom/Retract Boom

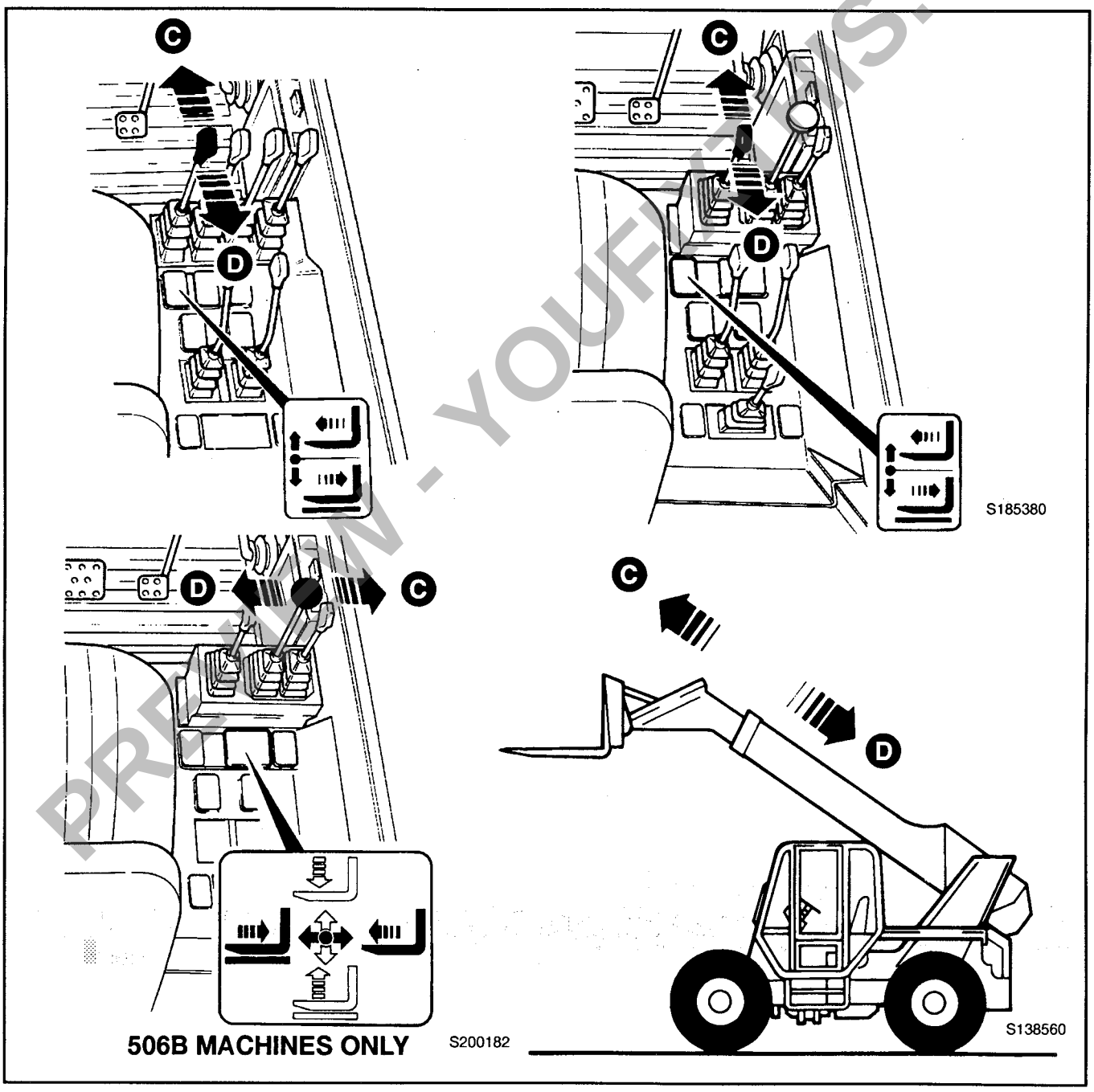
⚠ WARNING

Make sure it is clear overhead before extending a raised boom. Keep an adequate safe distance from all electrical power lines. Contact your local power company for safety procedures.

5-2-2-1/1

To extend the boom, move the lever in the direction **C**. To retract the boom, move the lever in direction **D**.

The illustration shows different control layouts, check your machine to see which controls apply.



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CAB SWITCHES AND INSTRUMENTS (continued)

Instruments

The instruments and indicator lights are grouped together on an instrument panel. Instruments provided are a tachometer/speedometer/hourmeter, a coolant temperature gauge and a fuel level gauge.

As well as indicator lights for the turn signals, high beam etc. there are warning lights for various fault conditions. When a warning light comes on an alarm will sound. The only way to cancel the alarm is to set the starter to 'off'.

Do not use the machine if it has a fault condition, or you might damage the engine and/or the transmission.

All instruments and indicators will be turned off when the starter switch is set to off. (But the four way flashers will still operate if the four way flashers lights are switched on.)

1 Coolant Temperature Gauge

Indicates the temperature of the engine coolant. The gauge pointer will gradually swing upwards as the coolant temperature rises.

Notice: *The machine can be operated until the red warning light illuminates then stop the engine.*

2 Fuel Level Gauge

Indicates the level of diesel fuel in the tank. *See* ***Fuel System*** *in MAINTENANCE section* for the type of fuel to be used. Do not let the tank run dry, or air will enter the fuel system.

3 Tachometer

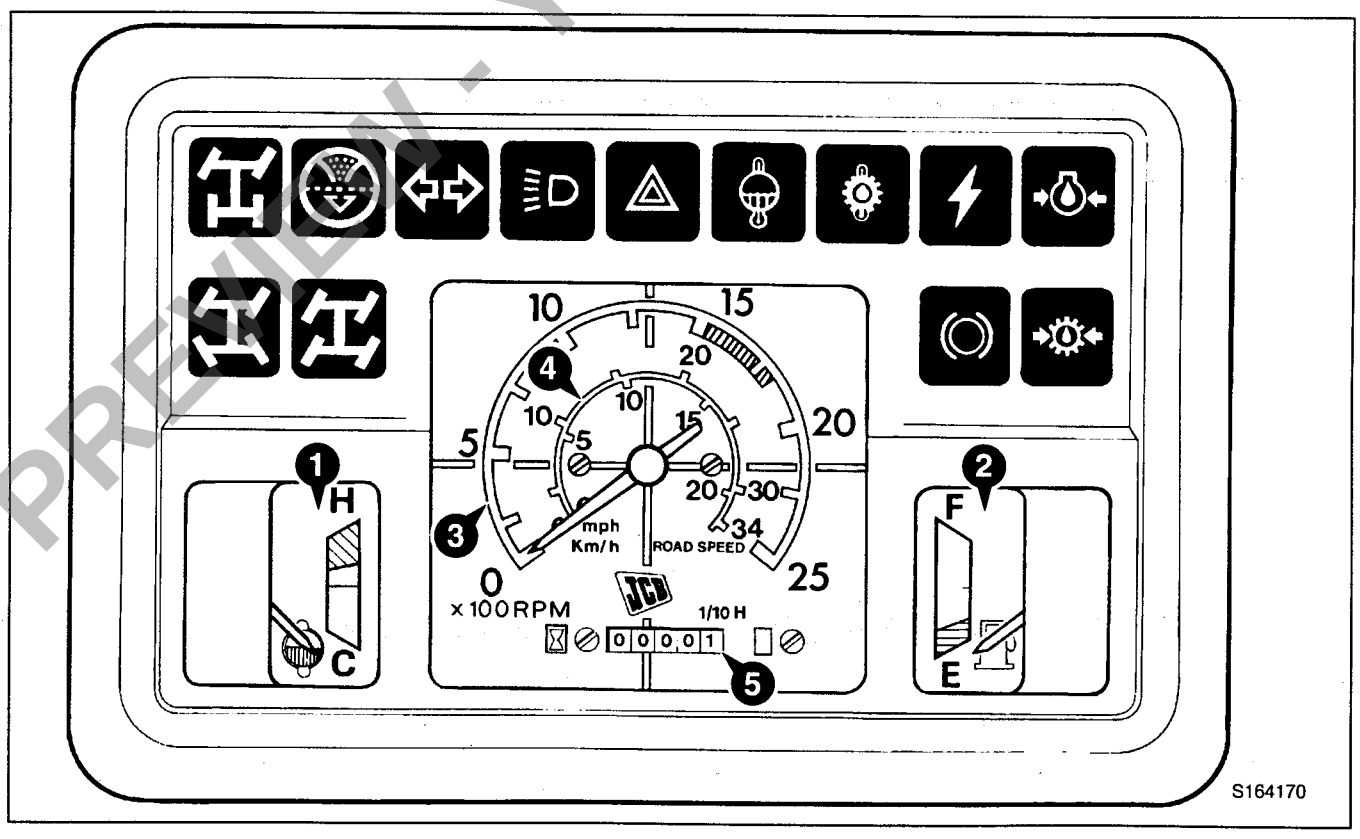
Indicates the engine speed in revolutions per minute (**RPM**). The RPM is shown on the outer ring. Each division is 100 RPM. A green band on the scale indicates the RPM which gives best fuel economy. Operate within that band whenever possible.

4 Speedometer

Indicates the road speed in 4th gear. The road speed is shown on the inner ring in miles per hour (**MPH**) and kilometers per hour (km./h).

5 Hourmeter

Records the total running time of the engine. Use it to keep a check of running hours during maintenance intervals.



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CHECKING FOR DAMAGE

Inspect steelwork for damage. Note damaged paintwork for future repair.

Make sure all pivot pins are correctly in place and secured by their locking devices.

Ensure that the steps and handrails are undamaged and secure.

Check for broken or cracked window glass. Replace damaged items.

Check all bucket teeth for damage and security.

Check all lamp lenses for damage.

Inspect the tires for damage and penetration by sharp objects.

Check that all safety decals are in place and undamaged. Fit new decals where necessary see ***Safety Decals*** *(INTRODUCTION section).*

SEAT BELT

Checking the Seat Belt Condition and Security

⚠ WARNING

Replace the seat belt with a new one if it is damaged, if the fabric is worn, or if the machine has been in an accident. Fit a new seat belt every three years regardless of condition.
2-3-1-8

Inspect the seat belt for signs of fraying and stretching. Check that the stitching is not loose or damaged. Check that the buckle assembly is undamaged and works correctly.
Check that the belt mounting bolts are undamaged, correctly fitted and tightened.

GREASING

You must grease the machine regularly to keep it working efficiently. Regular greasing will also lengthen the machine's working life. Grease the following areas daily. If the machine is used for only short periods each day, grease every 10 operating hours.

Greasing should be done with a grease gun. Normally, two strokes of the gun should be enough. Stop greasing when fresh grease appears at the joint. Use JCB 'Special' MPL Grease or equivalent.

In the following illustrations the grease points are numbered. Count them off as you grease them.

Notice: *Some optional attachments may need greasing more often. See OPTIONAL ATTACHMENTS section.*

⚠ WARNING

You will be working close into the machine for these jobs. Lower the boom if possible. Remove the starter key and disconnect the battery. This will prevent the engine being started. Make sure the parking brake is engaged.

Chock all four wheels before getting under the machine.
5-3-1-8

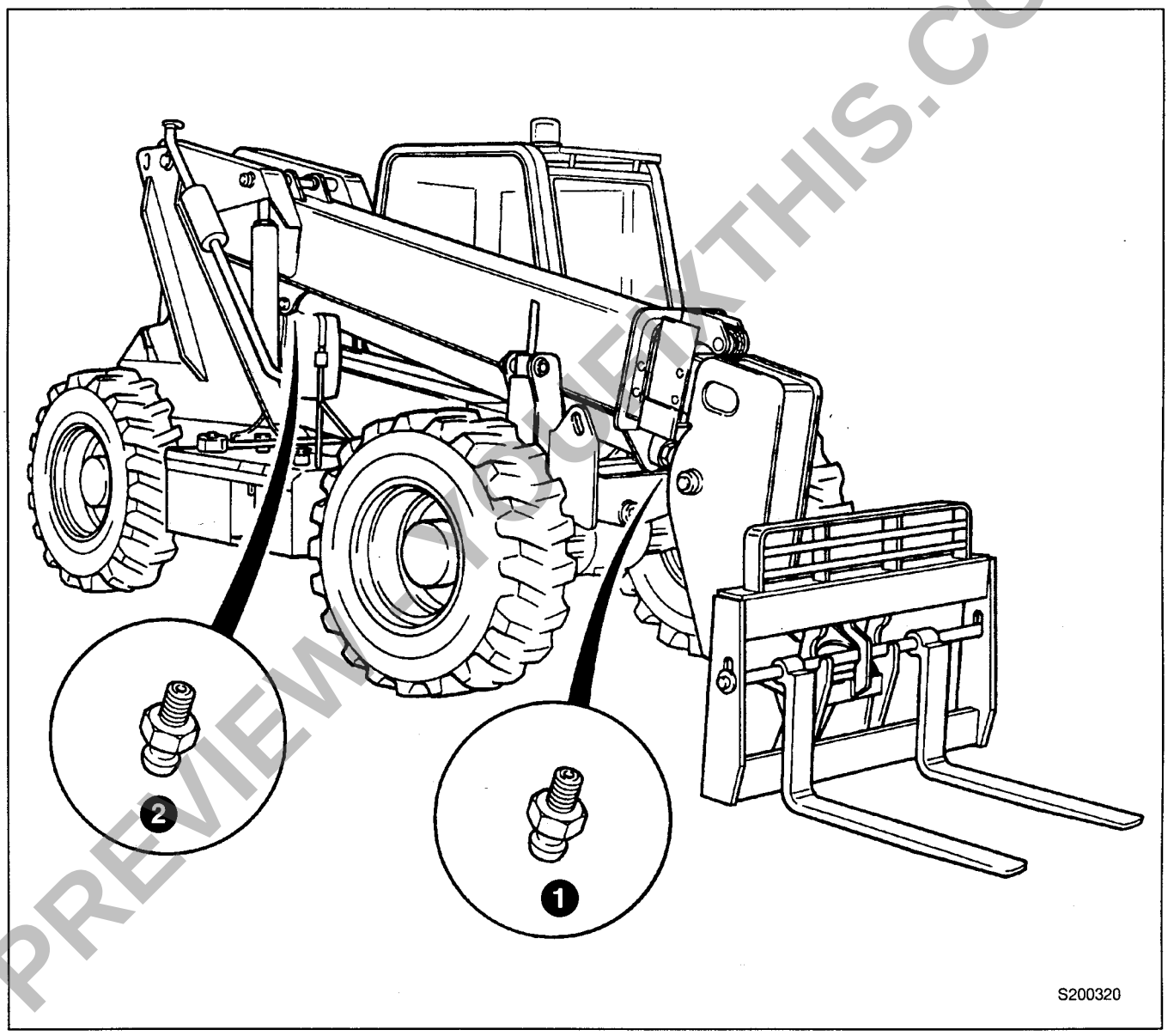
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GREASING (EVERY 1000 HOURS)
506B

Boom Extension Cylinder Pivots

See Greasing (Daily) for general information on greasing.



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FUEL SYSTEM

Types of Fuel

Use good quality diesel fuel to get the correct power and performance from your engine. The recommended fuel specification for Perkins engines is given below.

Cetane Number:	45(minimum)
Viscosity:	2.5/4.5 centistokes at 40 °C (104 °F)
Density:	0.835/0.855 kg/litre (0.872/0.904 lb/pint)
Sulphur:	0.5% of mass (maximum)
Distillation:	85% at 350 °C (662 °F)

Cetane Number

Indicates ignition performance. Fuel with a low cetane number can cause cold start problems and affect combustion.

Viscosity

Is the resistance to flow. If this is outside limits, the engine performance can be affected.

Density

Lower density will reduce engine power. Higher density will increase both engine power and exhaust smoke.

Sulphur

High sulphur content can cause engine wear. (High sulphur fuel is not normally found in North America, Europe or Australia.) If you have to use high sulphur fuel you must also use a highly alkaline engine lubricating oil; or change the normal oil more frequently.

Distillation

This indicates the mixture of different hydrocarbons in the fuel. A high ratio of lightweight hydrocarbons can affect the combustion characteristics.

Fuel Standards

Consult your fuel supplier, JCB distributor or Perkins dealer about the suitability of any fuel you are unsure of.

Low Temperature Fuels

Special winter fuels may be available for engine operation at temperatures below 0°C (32°F). These fuels have a lower viscosity. They also limit wax formation in the fuel at low temperatures. *(Wax forming in the fuel can stop the fuel flowing through the filter.)*

Flow improvers may also be available. These can be added to the fuel to reduce wax formation.

Gasoline

⚠ WARNING

Do not use gasoline in this machine. Do not mix gasoline with the diesel fuel. In storage tanks the gasoline could rise to the top and form flammable vapours.

INT-3-1-6

Advice

If you have to use non-standard fuels, contact your JCB distributor for advice on engine adjustments and oil change periods.

⚠ WARNING

Diesel fuel is flammable; keep naked flames away from the machine. Do not smoke while refueling the machine or working on the engine. Do not refuel with the engine running. There could be a fire and injury if you do not follow these precautions.

INT-3-2-2

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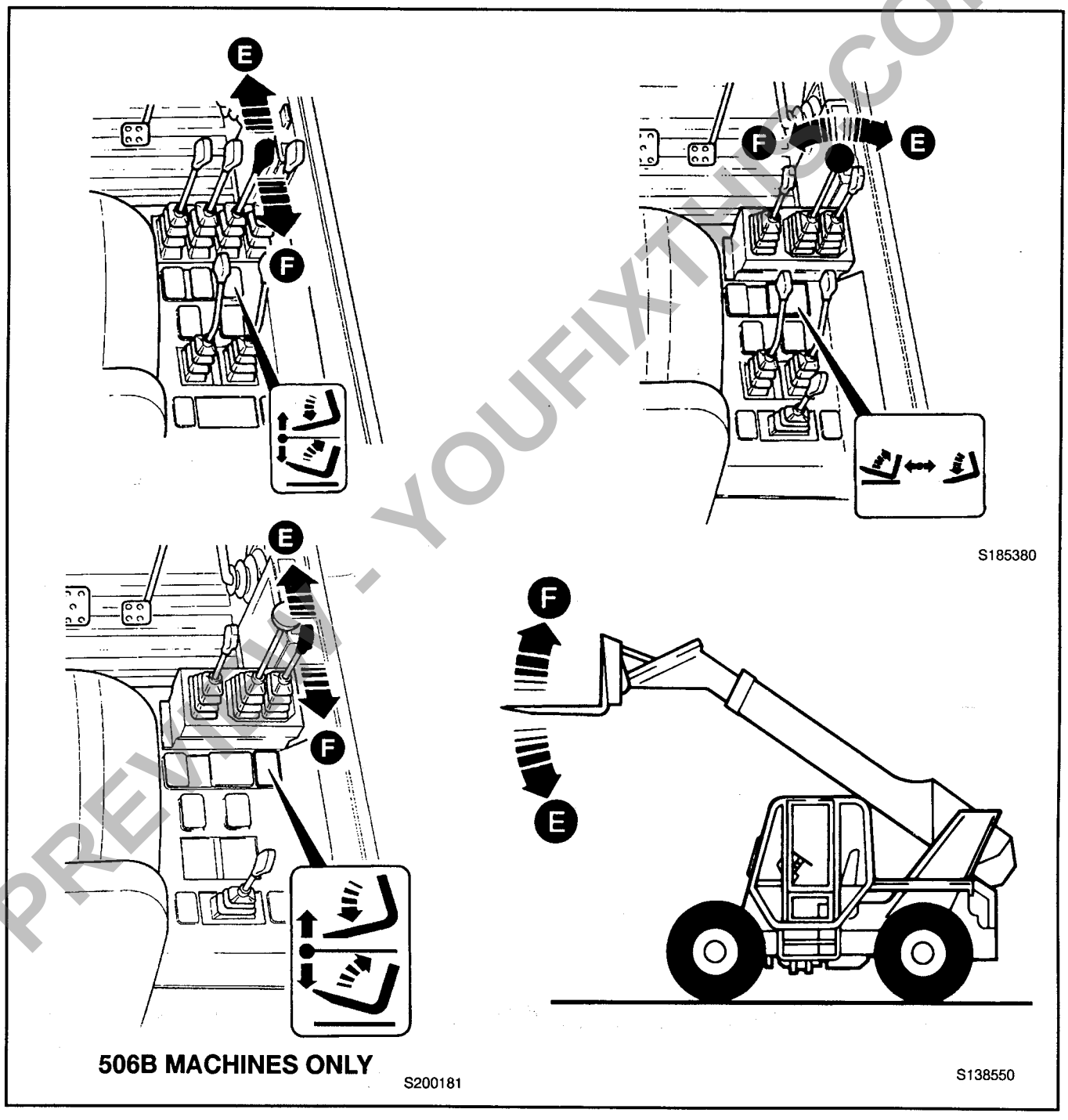
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BOOM AND CARRIAGE CONTROLS (continued)

Tilt Carriage Forward/Tilt Carriage Back

To tilt the carriage forward, move the lever in the direction of arrow **E**. To tilt the carriage back, move the lever in the direction of arrow **F**.

The illustration shows different control layouts, check your machine to see which controls apply.



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510-40 PERFORMANCE DIMENSIONS

Loader Performance (Standard GP Bucket, Boom Retracted)

Bucket rated capacity	33.76 cu ft (0.96 m^3)
Maximum dump height at 45° angle	11ft 2 in (3.40 m)
Maximum loadover height	19 ft 9 in (6.02 m)

Forklift Performance* (Stabilizers Lowered)

Placing height	37 ft 9 in (11.50 m)
Lift capacity to full height	8,000 lb (3629 kg)
Lift capacity at full reach	4,000 lb (1814.4kg)
Lift height	39 ft 3 in (11.96 m)
Reach at maximum lift height	6 ft 3 in (1.90 m)
Maximum forward reach	26 ft 1 in (7.95 m)
Load centre	24 in (.60 m)

*** Based on 24 in (610 mm) Load Center. See Load Charts.**

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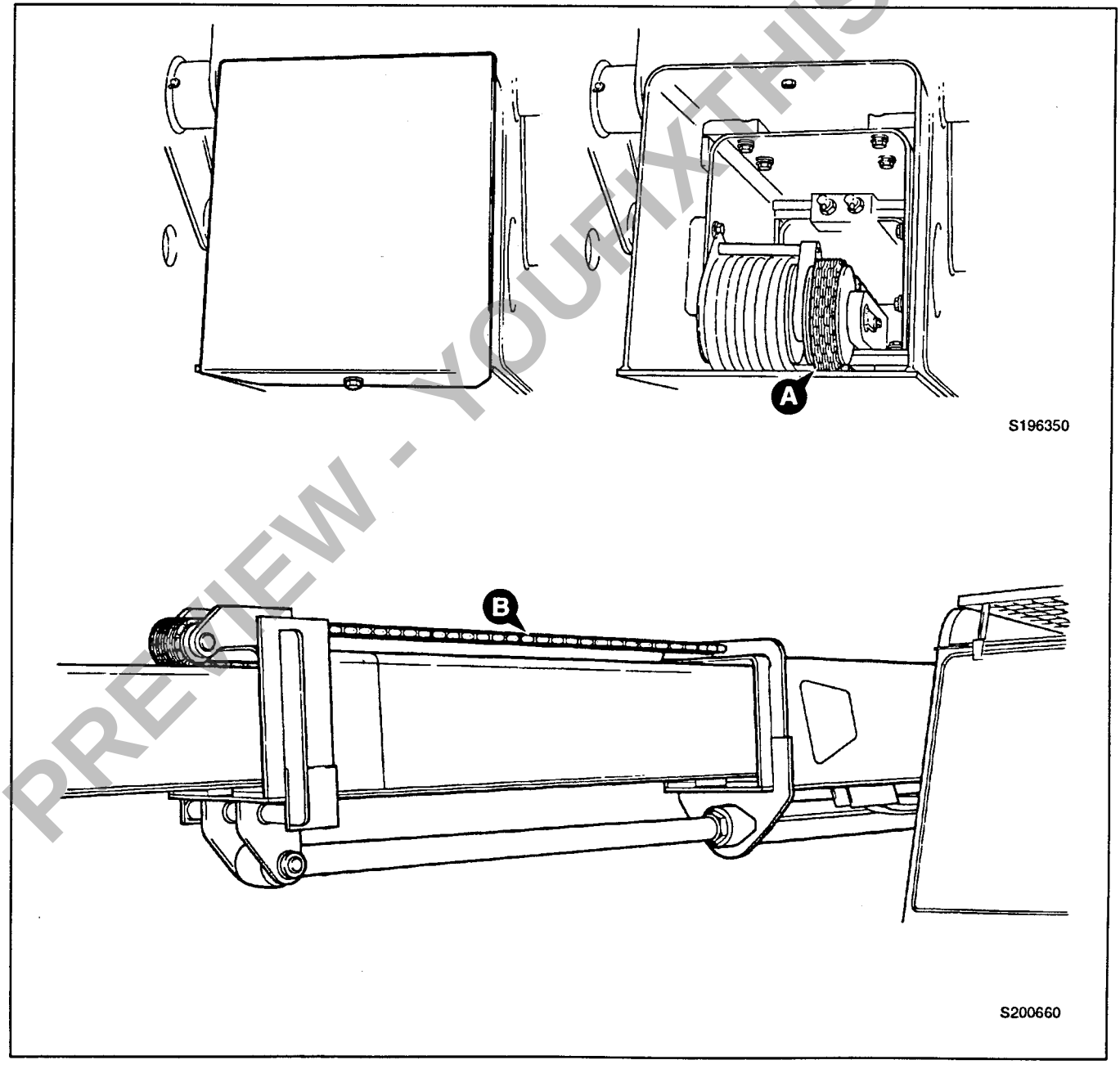
OILING
506B

The boom drive chains should be sprayed with JCB Chain Lubricant at the periods stated in the Service Schedules.

1 Remove boom rear cover, spray the drive chains with JCB Chain Lubricant while the boom is being extended as shown at **A**.

2 With the boom extended spray the drive chains with JCB Chain Lubricant as shown at **B**.

Notice: *Spray the chain with an even coating, avoid over oiling.*



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