

# 21-C

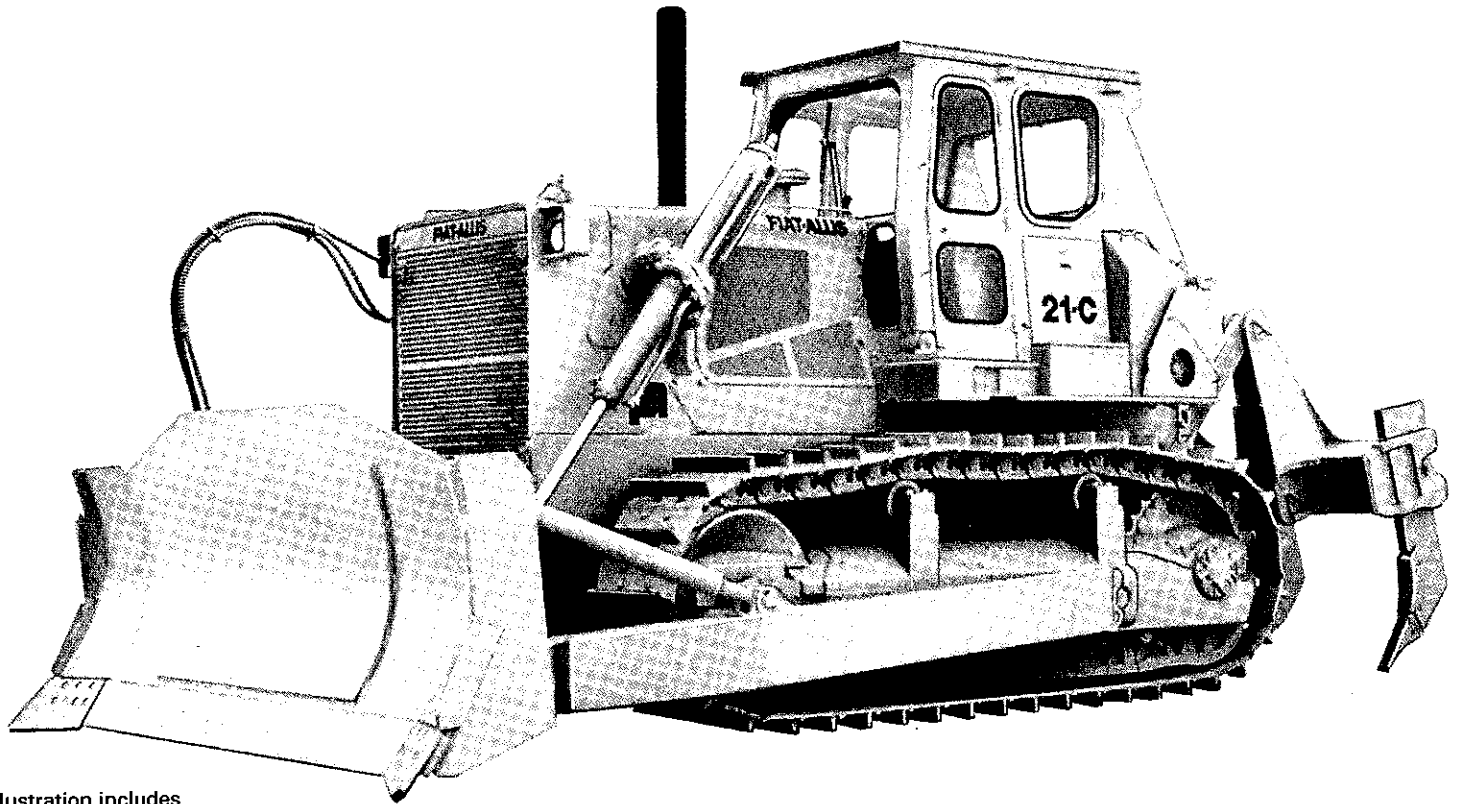


Illustration includes optional equipment

21-C Crawler Tractor

## POWER SHIFT ••• 300 FLYWHEEL H.P.

### PRODUCTIVITY

- Four high production dozers... a 13' (3962 mm) Semi-U, 13' (3962 mm) Semi-U (Rock), 14' (4267 mm) Full-U and 15' (4572 mm) Angle.
- Available with a Fiat-Allis 21-R modified parallelogram ripper; one, two or three shanks. A variety of optional brand name rippers are available.

### RELIABILITY

- A proven 844 cu. in. engine set to produce 300 net flywheel H.P. Direct injection design for fuel economy and fast acceleration.
- A driveline designed for smooth, fast cycles and toughness to last thousands of hours.

### SERVICEABILITY

- Lube oil fill and check points are located outside of the operator's compartment.
- All oil level checks made with engine off for SAFETY.

### OPERATOR COMFORT

- Tiltaway cab with sound reduction. Equipped with pressurizer, heater, dome light, washer, front and rear wipers, defroster, tinted safety glass, and tilt-out side windows. Optional air conditioner.
- Control console : ... controls are within easy reach of the operator's left or right hand.

### NOISE REDUCTION

- Modular type operator's compartment mounted on rubber and sealed from the drive line noise.
- A larger under the hood muffler for excellent noise reduction and visibility.

### EASY ENTRY AND EXIT

- Clean, open walk-thru operator's compartment. Built-in grab bars located in key areas.

# 21-C SPECIFICATIONS



## ENGINE

|                      |                                                    |
|----------------------|----------------------------------------------------|
| FLYWHEEL HORSEPOWER* | 300                                                |
| KILOWATTS**          | 224                                                |
| Make and Model       | Allis-Chalmers 21000 MK II                         |
| Type                 | Diesel, 4-Cycle, Turbocharged,<br>Direct Injection |
| Governed RPM         | 2035 RPM                                           |
| Number of Cylinders  | 6                                                  |
| Bore and Stroke      | 5.25" x 6.5" (133 x 165 mm)                        |
| Displacement         | 844 cu. in. (13.8 lit)                             |

\*The net flywheel horsepower of the vehicle engine under SAE standard conditions of 85° F. (29° C) and 29.38" (746 mm) Hg. after deductions have been made for fan, alternator, lube oil pump, water pump, air cleaner, fuel pump, and muffler. This vehicle may be operated up to 8000 ft. (2438 m) altitude without derating the engine.

\*\*Kilowatts is the International System of Units for power. One (1) horsepower equals 0.746 kilowatt in U.S.A. units.



## ELECTRICAL SYSTEM

|                         |        |
|-------------------------|--------|
| Voltage                 | 24     |
| Standard alternator     | 20 amp |
| Battery amp-hour rating | 225    |



## INPUT CLUTCH

|                     |                                       |
|---------------------|---------------------------------------|
| Operation           | Fully Automatic                       |
| Type                | Multiple Disc                         |
| Lubrication         | Full Pressure                         |
| Total Friction Area | 326.5 sq. in. (2107 cm <sup>2</sup> ) |



## TORQUE CONVERTER

|                       |                                |
|-----------------------|--------------------------------|
| Type                  | Single Stage, Rotating Housing |
| Torque multiplication | 2.80:1                         |



## TRANSMISSION

|             |                                                  |
|-------------|--------------------------------------------------|
| Type        | Full Power Shift, Countershaft,<br>Constant Mesh |
| Actuation   | Single Lever                                     |
| Clutches    | Multi-Disc, Hydraulic                            |
| Lubrication | Full Pressure                                    |

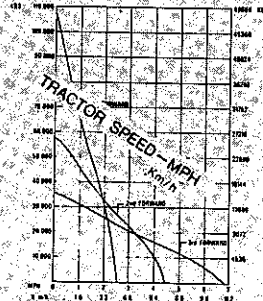
## SPEED AND DRAWBAR PULLS

| Fwd. | MPH | Km/h   |
|------|-----|--------|
| 1st  | 2.6 | (4.2)  |
| 2nd  | 4.4 | (7.1)  |
| 3rd  | 6.8 | (10.9) |

| Rev. | MPH | Km/h   |
|------|-----|--------|
| 1st  | 2.9 | (4.7)  |
| 2nd  | 5.0 | (8.0)  |
| 3rd  | 7.7 | (12.4) |

Maximum drawbar pull depends on traction and weight of tractor with mounted equipment.



## STEERING AND BRAKING

Hydraulically actuated spring applied clutches and brakes with modulated control provide maximum maneuverability with minimum effort. Clutches and brakes are oil cooled and lubricated for long trouble free hours of operation. Automatic safety brakes are standard equipment.

|                                          |                                         |
|------------------------------------------|-----------------------------------------|
| Friction Surfaces — Each Clutch Assembly | 32                                      |
| Total Friction Area —                    |                                         |
| Each Clutch Assembly                     | 2478.4 sq. in. (15990 cm <sup>2</sup> ) |
| Total Friction Area —                    |                                         |
| Each Brake Assembly                      | 340.5 sq. in. (2197 cm <sup>2</sup> )   |



## FINAL DRIVES

|             |                        |
|-------------|------------------------|
| Type        | Double Reduction       |
| Ratio       | 8.65:1                 |
| Lubrication | Filtered & Pressurized |



## TRACK

Non-sealed track. Hydraulic track adjusters with interlocking guards. Sprockets with bolt-on rim segments. Outer sprocket guards. Disc idlers. Track guiding guards. Track rollers, carrier rollers and idlers are permanently lubricated and sealed.

|                              |                                     |
|------------------------------|-------------------------------------|
| Frame Oscillation            | 18.9" (480 mm)                      |
| Track Rollers (each side)    | 7                                   |
| Double Flange                | 4                                   |
| Single Flange                | 3                                   |
| Number of Shoes (each side)  | 41                                  |
| Width of Standard Track Shoe | 24" (610 mm)                        |
| Length of Track on Ground    | 124" (3150 mm)                      |
| Ground Contact Area          | 5952 sq. in. (3.84 m <sup>2</sup> ) |
| Gauge                        | 84" (2134 mm)                       |
| Ground Clearance             | 17.03" (433 mm)                     |



## HYDRAULIC SYSTEM

|                         |                                    |
|-------------------------|------------------------------------|
| Reservoir               | Closed                             |
| Cylinders               | Double Acting                      |
| Dozer (Two)             | 5.5" x 46.5" (140 x 1181 mm)       |
| Tilt (Right Side)       | 8" x 4.5" (203 x 114.3 mm)         |
| Pump                    |                                    |
| Capacity @ Governed RPM |                                    |
| Large Section           | 75 GPM (284 lit)                   |
| Small Section           | 33 GPM (125 lit)                   |
| Control Valve           | Three Spool                        |
| Relief Valve Pressure   | 2000 PSI (140 kg/cm <sup>2</sup> ) |
| Actuation               | One Lever                          |
| Dozer                   | Raise, Hold, Lower, Float          |
| Tilt                    | Left and Right                     |



## FILTRATION SYSTEMS

|                                   |                                                           |
|-----------------------------------|-----------------------------------------------------------|
| ENGINE                            |                                                           |
| Lube Oil                          | 2 Full Flow 25 Micron<br>and 1 By-pass 5 Micron           |
| Fuel                              | 2 Full Flow 5 Micron<br>1 Full Flow Water Separator       |
| Air Cleaner                       | Dry Type w/safety Element<br>and Automatic Dust Evacuator |
| Coolant                           | Water Filter and Conditioner                              |
| TRANSMISSION — TORQUE CONVERTER — |                                                           |
| INPUT CLUTCH                      | 1 Full Flow 10 Micron<br>Full Flow Suction Screen         |
| STEERING AND BRAKING              | 2 Full Flow 20 Micron<br>w/screen and Magnet              |
| HYDRAULIC                         | 2 Full Flow 10 Micron w/screen and Magnet                 |
| FINAL DRIVE                       | 2 Full Flow 25 Micron                                     |



## CAPACITIES

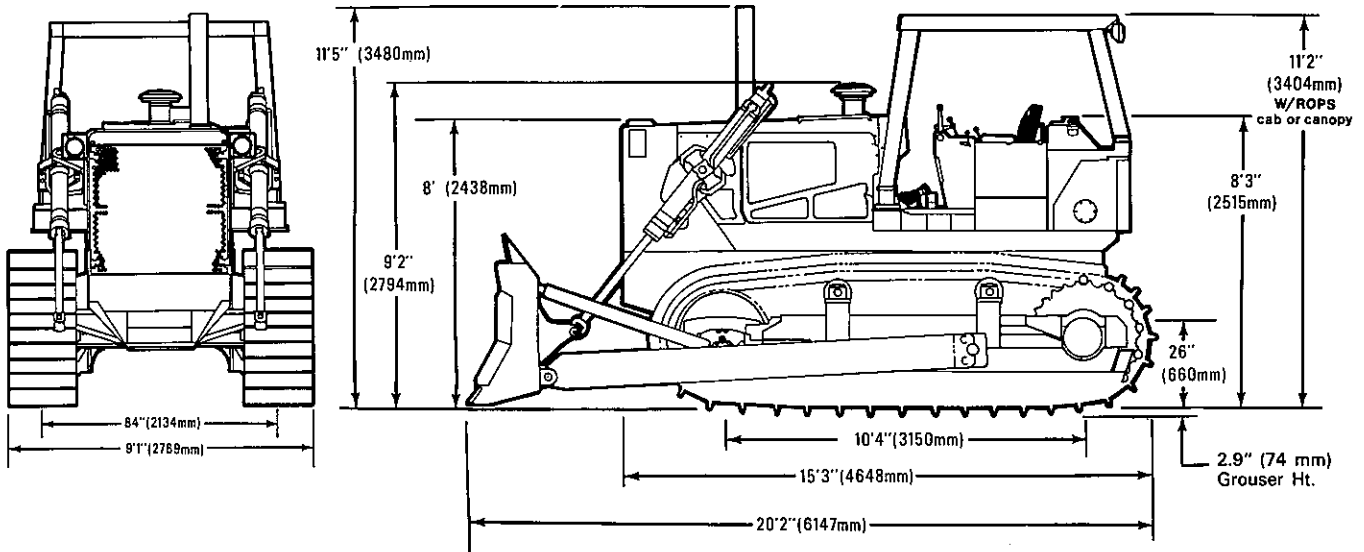
|                                  |                         |
|----------------------------------|-------------------------|
| ENGINE CAPACITIES                |                         |
| Lube Oil                         | 14.25 U.S. gal (54 lit) |
| Coolant                          | 24 U.S. gal (91 lit)    |
| Fuel Tank                        | 160 U.S. gal (606 lit)  |
| TRANSMISSION, TORQUE CONVERTER,  |                         |
| INPUT CLUTCH                     | 17 U.S. gal (64 lit)    |
| STEERING AND BRAKING             | 44.5 U.S. gal (169 lit) |
| FINAL DRIVES (each side)         | 11 U.S. gal (42 lit)    |
| HYDRAULIC SYSTEM                 | 33 U.S. gal (125 lit)   |
| HYDRAULIC SYSTEM w/Ripper & Tilt | 42 U.S. gal (159 lit)   |



## DIMENSIONS AND WEIGHTS

### SHIPPING WEIGHT

(Standard equipment) ..... 61745 lbs. (28007 kg)  
 (w/o Canopy and seat belt)..... 59545 lbs. (27009 kg)



### TRACTOR AND ATTACHMENTS

HSU w/drawbar  
 HSU w/21-R w/3 shanks  
 HSU (Rock) w/drawbar  
 HSU (Rock) w/21-R-w/3 shanks  
 HU w/std cwt.  
 HU w/21-R-w/3 shanks  
 HA w/drawbar  
 HA w/21-R w/3 shanks  
 ROPS Cab add

### SHIPPING WEIGHTS

71645 lbs. (32498 kg)  
 83145 lbs. (37714 kg)  
 73645 lbs. (33405 kg)  
 85145 lbs. (38622 kg)  
 75725 lbs. (34349 kg)  
 83895 lbs. (38055 kg)  
 69935 lbs. (31722 kg)  
 81445 lbs. (36943 kg)  
 1165 lbs. ( 528 kg)

### OVERALL LENGTH

20' 2" (6147 mm)  
 25'11" (7899 mm)  
 20' 2" (6147 mm)  
 25'11" (7899 mm)  
 22' 4" (6807 mm)  
 27' 2" (8280 mm)  
 19' 9" (6020 mm)  
 25' 6" (7772 mm)



## BULLDOZERS Specifications

| Type                                | Semi "U"        | Semi "U" (Rock) | Full "U"         | Angle              |
|-------------------------------------|-----------------|-----------------|------------------|--------------------|
| Blade                               | 21 HSU          | 21 HSU (Rock)   | 21 HU            | 21 HA              |
| Width*                              | 13' (3975 mm)   | 13' (3975 mm)   | 14' (4267 mm)    | 15' (4613 mm)      |
| Height                              | 60½" (1537 mm)  | 60½" (1537 mm)  | 56" (1422 mm)    | 45" (1143 mm)      |
| Digging Depth                       | 21" (533 mm)    | 21" (533 mm)    | 21" (533 mm)     | 21" (533 mm)       |
| Ground Clearance                    | 56" (1422 mm)   | 56" (1422 mm)   | 56" (1422 mm)    | 54" (1372 mm)      |
| Max. Tilt                           | 30" (762 mm)    | 30" (762 mm)    | 32" (813 mm)     | 15" (380 mm) Mech. |
| Max. Pitch (degrees)                | 10              | 10              | 10               | 0                  |
| *Width of blade over (SS) end bits. |                 |                 |                  |                    |
| <b>CUTTING EDGES</b>                |                 |                 |                  |                    |
| Center section (reversible)         | Yes             | Yes             | Yes              | Yes                |
| Length (Section)                    | 59.8" (1518 mm) | 59.8" (1518 mm) | 77.75" (1975 mm) | 65.28" (1658 mm)   |
| Width                               | 10" (254 mm)    | 10" (254 mm)    | 10" (254 mm)     | 10" (254 mm)       |
| Thickness                           | 1" (25.4 mm)    | 1" (25.4 mm)    | 1" (25.4 mm)     | 1" (25.4 mm)       |
| <b>END BITS:</b>                    |                 |                 |                  |                    |
| Width                               | 12.8" (325 mm)  | 12.8" (325 mm)  | 10.8" (274 mm)   | 10.8" (274 mm)     |
| Thickness                           | 1.38" (35 mm)   | 1.38" (35 mm)   | 1.5" (38 mm)     | 1.5" (38 mm)       |



## RIPPER

Overall Width .....8' (2438 mm)  
 Ripping Width .....7'4" (2235 mm)  
 Weight (Basic Ripper) Less  
 Shanks .....9585 (4347 kg)

### BEAM (Welded Box Section)

Length .....8' (2438 mm)  
 Section .....14" x 14" (356 x 356 mm)

### SHANKS (None standard, 1, 2, or 3 Optional)

Type .....Straight and Adjustable  
 Positions .....2  
 Spacing (center to center  
 of shanks).....44" (1118 mm)

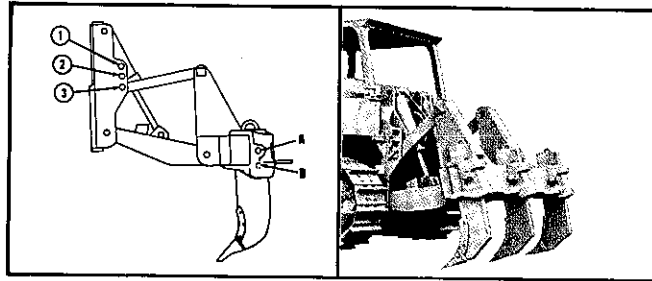
Max. Depth of Penetration .....34" (864 mm)  
 Length .....58.5" (1486 mm)  
 Section .....3" x 13" (76 x 330 mm)  
 Weight, Ea. Shank  
 (W/shank guard, 1 tooth) .... 636 lbs. (288 kg)

### TEETH

Type .....One-Piece, Forged Self-Sharpener  
 Length .....15" (381 mm)  
 Weight, each .....32.5 lbs. (15 kg)

### CONTROL

Hydraulic .....Two Double Acting Cylinders  
 7" Bore x 24.5" Stroke (178 x 622 mm)



| Shank Position | Max. Penetration Inches (MM) | Ground Clearance Under Tip, Raised |                |                | Overall Length Dozer & Ripper, Raised |                  |                    |
|----------------|------------------------------|------------------------------------|----------------|----------------|---------------------------------------|------------------|--------------------|
|                |                              | Strut Positions                    |                |                | Strut Positions                       |                  |                    |
|                |                              | 1                                  | 2              | 3              | 1                                     | 2                | 3                  |
| A              | 34" (864 mm)                 | 10.1" (257 mm)                     | 13.2" (335 mm) | 18.1" (460 mm) | 25' 3" (7696 mm)                      | 25' 8" (7823 mm) | 26' 0.4" (7935 mm) |
| B              | 24" (610 mm)                 | 19.7" (500 mm)                     | 22" (559 mm)   | 25.7" (653 mm) | 25' 0" (7620 mm)                      | 25' 3" (7696 mm) | 25' 7.8" (7818 mm) |



## STANDARD EQUIPMENT

- Air cleaner — Dry w/service indicator and safety element
- Alternator — 20 amp
- Anti-freeze
- Back-up alarm
- Brakes — automatic safety
- Clutch, engine — automatic
- Decelerator — foot pedal
- Drawbar — fixed
- Engine side panels — perforated
- Filter, coolant
- Fan — pusher
- Gauges: engine oil pressure, trans. clutch

- pressure water temperature, voltmeter
- Guards: crankcase, full width S.S.; radiator, hyd. dozer; track guiding, ends; transmission S.S.; idler seal; sprocket seal
- Horn
- Hourmeter
- Hydraulics tank and 3 spool valve, pump and piping, dozer cyls. and piping
- Idler — disc type
- Lighting — 2 head and 2 rear flood
- Muffler
- Pull hook — front

- ROPS Canopy
- Seat Belt
- Sprocket — segmented
- Starting — 24 v. direct electric
- Steering clutches & brakes oil cooled, spring applied, hydraulic released
- Torque converter
- Track — unsealed
- Track adjusters — hydraulic
- Track rollers — 7 each side, 4 dbl., 3 sgl.
- Track shoes — 24" (610 mm) S.S.
- Transmission — power shift
- Transmission test panel



## OPTIONAL EQUIPMENT

- Alternator — 50 amp
- Counterweight
- Drawbar — S.S.
- Fan — reversible
- Fuel tank adaptor — for fast fueling
- Grill — horizontal slat type
- Grill — S.S.
- Guards: sprocket, inner; full roller & track frame ends

- Radiator — sand grid
- Radiator — steel fin
- ROPS cab — w/o air conditioning
- ROPS cab — w/air conditioning
- Screen — rear
- Special painting
- Starter — high capacity
- Starting fluid — primer
- Sweeps — front

- Tool Package
- Tool shoes: 22" (559 mm) full grouser 22" (559 mm) S.S. full grouser 24" (610 mm) full grouser 26" (660 mm) full grouser 26" (660 mm) S.S. full grouser 28" (711 mm) S.S. full grouser
- Vandalism protection



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