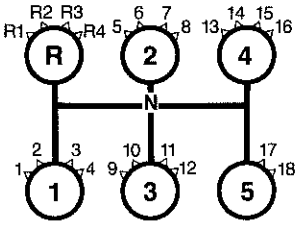
SHIFTING THE SPICER 18 SPEED TRANSMISSION DRIVER INSTRUCTIONS

The 18 speed was designed to be used with performance engines (1800-2100 RPM governed and 1200 RPM peak torque) for performance, on/off highway and specialty hauling applications. It is a close stepped (18-19%) transmission with maximum versatility and driver ease. The air system provides the muscle to shift the splitter and range sections. All 18 gears are obtained from a single lever with a standard shift pattern. The gear ratios and shift pattern are shown below.

Shift Pattern:



Ratio

Rev	14.21 11.97 10.13 8.53				
1	14.21		10	3.27	
		19%			18%
2	11.97		11	2.77	
		18%			19%
3	10.13		12	2.33	
		19%			19%
4	8.53		13	1.96	
		14%			19%
5	7.46		14	1.65	
		19%			19%
6	6.28		15	1.40	
		18%			19%
7	5.32		16	1.18	
		19%			18%
8	4.48		17	1.00	
		15%			19%
9	3.89		18	.84	
		19%			

As professionals you know clash-free shifts are made when engine speed and driveline speeds are matched. We recommend double clutching when the shift lever is changed either up or down in shift sequence.

Clutch Brake

The clutch brake used with this unit is designed for stopping gears to get into 1st and reverse. The last one inch of clutch pedal travel activates the clutch brake. So on shifts other than first or reverse from a stop, only depress the clutch pedal enough to release the clutch. Depressing the pedal to the floorboard will activate the clutch brake and could cause gear hang up or hard shifting.

When starting if you have a butt tooth condition, gradually release clutch. The drive gear can then roll over to align teeth to complete the shift.

Upshifting

Normal shift sequence is shown on the shift pattern. When the lever is moved use the normal double clutch technique. When the shift is desired, depress the clutch moving the lever to neutral. Engage the clutch allowing the engine to drop (300-350 rpm) so engine and driveline speed are matched. Depress the clutch and move lever into gear. Engage clutch and accelerate as conditions permit.

On splitter shifts (1 ➡4, 5 ➡8, 9 ➡12, 13 ➡16, and 17 ➡18), don't move the lever from its position. With torque on the driveline, merely select the air control and use a single clutch application just to break torque, let the engine speed drop (300-350 rpm). Engage the clutch and apply the throttle. The shift from the 2nd to 3rd air position on the control is a double shift. Both the splitter and range are shifting, so it will take the shift slightly longer.

When the shift requires both splitter and lever position change (4 ➡5, 8 ➡9, 12 ➡13, and 16 ➡17), select the splitter just as the shift lever enters neutral. Complete a normal double clutch operation. The air shift will be completed automatically as the lever is moved to the next gear position.

Downshifting

On a splitter shift, don't move the lever. With torque on the driveline, select the splitter, break torque with a single clutch application while simultaneously increasing engine speed toward the governor. The air system will complete the downshift quickly and smoothly. When the lever movement is required, the double clutch technique is used. As the engine approaches the shift point (start the downshift 50-100 rpm above the shift point) select the splitter with torque on the driveline, depress the clutch and move the lever to neutral. Engage the clutch and raise the engine (275-325 rpm) until the engine RPM and driveline speed are equal. Depress the clutch and move the shift lever into the next lower gear. Engage the clutch and keep on trucking!

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