7.37 Knotter tying troubleshooting

7.37.1 Tying troubleshooting

No knotter indication when the baler ties	
Cause(s)	**Solution(s)**
Faulty needle switch	See your dealer.

Knots staying on billhook too long	
Cause(s)	**Solution(s)**
Not enough twine holder spring tension	Tighten the twine holder spring adjustment bolt.
Too much tension on the billhook cam	Check billhook cam adjustment.
Twine disc is rotated clockwise too far	Check twine disc adjustment and rotate the twine disc counterclockwise if necessary.
Dull or damaged stripper arm knife	Replace or sharpen the stripper arm knife.
Stripper arm is not set close enough to the billhook	Adjust the stripper arm to lightly rub the billhook.
Stripper arm does not travel far enough past the end of the billhook	Check the stripper arm adjustment.
Stripper arm cam lobe on the cam gear is worn or damaged	Repair or replace the cam gear.
Stripper arm roller is worn or missing	Replace the stripper arm roller.
Worn or rough billhook	Replace the billhook or remove the rough edges with a file and emery cloth.

Billhook tongues are breaking frequently	
Cause(s)	**Solution(s)**
Not enough bottom twine tension	Increase the bottom twine tension by tightening the springs on the bottom twine tensioners.

Twine is wrapped on top of the billhook and the first and second knots are connected	
Cause(s)	**Solution(s)**
Needle not getting the top twine. The tucker arm roller is to the right-hand of the top needle roller.	Bend the tucker arm and/or the needle until both parts are in correct alignment (the tucker arm roller is to the left-hand of the top needle roller).
Needle does not put both twines in the twine disc correctly	Adjust the needle position and/or twine disc timing.
Twine running off the right-hand side of the tucker arm roller	Bend the top slacker arm into alignment with the tucker arm. Use the correct twine.

Knots in bottom twine only; top twine is not cut between the bales (top twine is around two bales)	
Cause(s)	**Solution(s)**
Needle and tucker arm are out of alignment causing the needle to not get the top twine. Normally twine is on the left-hand side of needle	Bend the tucker arm and/or needle until both parts are in alignment.

Knots in bottom twine only; top twine is not cut between the bales; a loose half-hitch knot is on the billhook	
Cause(s)	**Solution(s)**
Needle penetration is too low or the needle height is too high over the twine disc. Top twine is not in the twine disc	Adjust the needle penetration. Adjust the needle height.

Knot in the top twine only on the first knot	
Cause(s)	**Solution(s)**
Twine finger did not pick up the twine from the needles and move the twine into the tying position correctly	Adjust the twine finger.
Hay dogs are not entering the bale chamber	Clear the hay and dirt from between the hay dogs and bale chamber. Check for broken springs and hay dogs. Replace the broken parts.
Twine finger does not rotate freely	Clean and repair as necessary. Check the adjustment of the twine finger. Make sure the twine finger adjustment rod does not go over center.
Twine finger shaft does not rotate freely	Check for any obstructions that can prevent the shaft from rotating freely.
Twine finger spring is broken or weak	Replace the twine finger spring.

Knot in the top twine only on the second knot	
Cause(s)	**Solution(s)**
Bottom twine slacker arm is not rotating freely on shaft	Check the bottom slacker arm bearing. Check for obstructions.
Not enough tension on the bottom twine	Increase the twine tension on the bottom twine tensioner.
Needle twine is not threaded correctly	Check and correct the needle twine threading.
Broken or missing bottom slacker spring or other bottom slacker parts	Replace the bottom slacker spring. Replace any broken or missing bottom slacker parts.
Bottom twine staying too long on the back side of the twine finger when the twine finger retracts	Remove the rough edges from the twine finger.
Twine finger is not retracting completely	Adjust the twine finger.

Knot in the top twine only on the second knot	
Cause(s)	**Solution(s)**
	Clean and repair as necessary. Check for any obstructions that can prevent the shaft from rotating freely. Check the springs for the twine finger shaft. Replace if necessary.

Knot in the bottom twine only on the second knot	
Cause(s)	**Solution(s)**
Twine finger is not adjusted close enough to the tucker arm	Adjust the twine finger forward toward the tucker arm. **NOTE:** *When adjusting the twine finger, check both the tucker arm and needle for the correct gap from the twine finger.*
Needle is damaged or bent	Repair or replace the needle if damaged. If the needle is bent, replace the needle.
Top twine is not routed correctly	Check and correct the top twine threading.
Spring for the top twine slacker arm is broken or disconnected	Replace or connect the spring for the top twine slacker arm.
Broken or missing top slacker parts	Replace any broken or missing top slacker parts.
Tucker arm cam roller is broken or is not coming in contact with the cam	Replace the cam roller and/or straighten the cam roller arm until the roller is centered on the cam.

Twine is wrapped on top of the billhook on the second knot	
Cause(s)	**Solution(s)**
Bottom twine slacker arm is not moving freely	Clean the bottom twine slacker arm and shaft. Check for obstructions.
Broken or missing bottom slacker spring or other bottom slacker parts	Replace the bottom slacker spring. Replace any broken or missing bottom slacker parts.
Not enough tension on the bottom twine	Increase the bottom twine tension by tightening the springs for the bottom twine tensioner gears.
Needle and tucker arm are out of alignment causing the needle to not get the top twine. Twine is to the right-hand side of the needle	Bend the tucker arm and/or needle until both parts are in the correct alignment with each other.
Twine disc is rotated too far counterclockwise	Rotate the twine disc clockwise.

Twine wraps around the top of the billhook on the first knot	
Cause(s)	**Solution(s)**
Twine disc is rotated too far counterclockwise	Rotate the twine disc clockwise.
Needle and tucker arm are out of alignment causing the needle to miss the top twine. Twine is to the right-hand side of the needle.	Bend the tucker arm and/or needle until both parts are in the correct alignment.

No knot in either twine, on one or all of the knotters	
Cause(s)	**Solution(s)**
Twine finger is not working correctly	Inspect the twine finger linkage and twine finger adjustment.
Twine finger roller is not coming in contact with the cam	Replace or connect the twine finger spring. Clean or repair as necessary. Adjust the twine fingers. Check for any obstructions that can prevent the twine finger from rotating freely.
Damaged billhook tongue	Replace the billhook tongue.
Not enough tension on the billhook cam	Increase the tension on the billhook cam
Twines to the needle and knotter are not routed correctly	Check and correct the twine routing.
Twine holder spring is too tight and does not permit enough twine to slip through the twine disc to form a knot	Loosen the twine holder spring adjusting screw. Clean dust and chaff from under the twine holder spring. Adjust the twine holder.
Billhook is not rotating	Replace the roll pin in the billhook pinion.
Twine is being cut in the twine discs	Loosen the twine holder and/or remove all sharp edges on the twine holder and twine discs.

Fig. 691

Double twine bow knot

Cause(s)	Solution(s)
Twine holder spring is set too loose	Tighten the twine holder spring adjustment bolt to shorten the tail on the knot.
Not enough travel of the stripper arm past the billhook	Adjust the stripper arm to get more travel past the billhook. Check the knotter cam gear for wear and repair or replace as necessary. Check for worn or damaged roller on the stripper arm.
Twine tension is not correct because of a broken spring on the top or the bottom slacker arm	Replace the broken spring.
Twine tension is not correct because of a bottom slacker arm not rotating freely on the shaft	Clean the bottom slacker arm and shaft. Check for obstructions.
Dull or damaged twine knife	Sharpen or replace twine knife.

Fig. 692

Twine ends are frayed

Cause(s)	Solution(s)
Dull or damaged twine knife	Sharpen or replace the twine knife.
Twine knife base is holding twines	Check the twine disc adjustment or position of the twine knife base.

Fig. 693

Twine ends are not even

Cause(s)	Solution(s)
Dull or damaged twine knife	Sharpen or replace the twine knife.
Not enough twine tension on either the top or bottom twines	Increase the spring tension on the twine tensioner gears.

Fig. 694

Strands of one twine double back through the knot

Cause(s)	Solution(s)
Billhook tongue is closing on top of the twine	Adjust the timing of the twine disc. Adjust the stripper arm to hold the twine over the billhook tongue farther to the right-hand.
Not enough spring tension on the twine holder springs	Increase the tension on the holder springs.
Dull or damaged twine knife	Sharpen or replace the twine knife.

Fig. 695

Frayed knot

Cause(s)	Solution(s)
Twine tension is too high	Check and adjust the twine tension at both the top and bottom twine tensioners. Decrease the tension on the twine holder springs.
Damaged twine disc or twine holder	Inspect the twine holder for rough and sharp areas that can damage the twine. Repair as necessary.
Rough or sharp areas on the billhook or stripper arm	Remove the rough or sharp edges.
Dull or damaged twine knife	Sharpen or replace the twine knife.

Fig. 696

Knot in the end of one twine and no knot in the end of the other twine on all six twines

Cause(s)	Solution(s)
One or more twine fingers do not work freely, causing all of the twine fingers to not work correctly.	Clean or repair as necessary. Adjust the twine finger.
Twine finger is going over center	Adjust the twine finger.
Twine fingers shaft does not rotate freely	Adjust the center bearing for twine finger shaft.
Spring for twine finger shaft is weak; roller on the twine finger shaft does not contact cam through a complete cycle	Replace the twine finger shaft spring.

Weak knot	
Cause(s)	**Solution(s)**
Twine holder spring tension is too tight	Adjust the twine holder spring tension.

Short ends of knot frequently pull loose (normally on the second knot)	
Cause(s)	**Solution(s)**
Twine holder spring is set too tight	Decrease the tension on the twine holder springs.
Twine tension is not correct	Check the twine tension at both the top and bottom twine tensioners. Increasing the twine tension will normally increase the length of the short ends of knots.
Not enough tension on the billhook cam	Adjust the billhook cam.

Twine discs do not stay in time	
Cause(s)	**Solution(s)**
Worm drive gear groove pin breaks	Replace the groove pin.
Worm gear slips on the worm shaft	Tighten the nut on the worm shaft. Remove the shims to let the worm gear set on the tapered area of the worm shaft. Measure the end play for the worm gear shaft and adjust as necessary. Check for cracks in the worm gear and replace if cracks are present.
Worn or broken worm gear or worm drive gear	Replace the worm gear or the worm drive gear.

Failure to apply enough tension on the twine with the twine tensioner	
Cause(s)	**Solution(s)**
Adjustment bolt threads are worn	Replace the adjustment bolt.
Groove worn in the tension gears	Replace the tensioner or remove the tensioner assembly and install from the opposite side of the baler.
No travel left in the springs	Replace the bad parts. Straighten the gear mounting bracket or shorten the rear spacers.