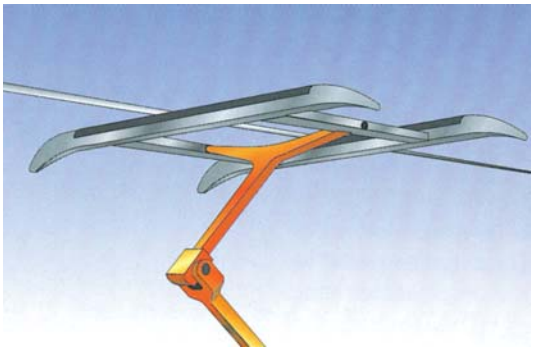
CARBON COLLECTORS

pantograph carbons

MORGAN
INDUSTRIAL CARBON

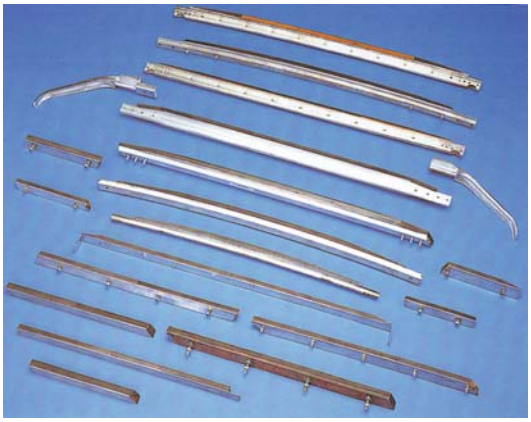


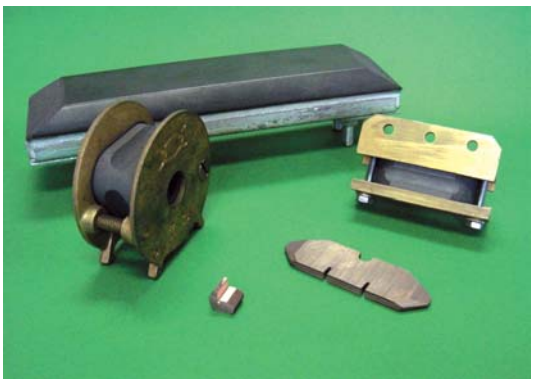
Morgan Industrial Carbon is the leading supplier of pantograph carbon collectors within the Australasian market.

Our range of products includes metallised and plain carbon strips, designed for optimum life, whilst maintaining overhead cable conditions.

The advantages of carbon in current collection

Carbon exhibits many operational and financial advantages over metallic materials as a linear current collector, and the benefits to user systems are becoming increasingly apparent as more of the world's railway, third rail and tram systems change to carbon. Carbon's lower mass and self-lubricating ability to deposit a protective patina on the collector wire or rail gives major benefits that cannot be matched by any other collector material.





Overhead current collection

On pantograph systems, the advantages of carbon include ;

- Longer collector strip life, lower maintenance costs and less frequent replacement
- Longer wire life, giving significant reductions in the cost of maintenance for the overhead system
- Reduced mass for better current collection
- Carbon's inert qualities, which ensure that carbon will not weld to the conductor wire, even after long periods of static current loading.
- The ability to operate at high speeds up to and in excess of 240km per hour.
- The virtual elimination of electrical interference to telecommunications and signal circuits
- Negligible audible noise between rubbing surfaces.

Morgan

Quality System
Quality Endorsed Company
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Pantograph carbon – fault finding chart

SYMPTOMS

A	Burnt carbon surface
B	Uneven wear along strip length
C	Uneven wear strip to strip
D	Grooving
E	Edge chipping
F	Cracked carbons
G	Sparking damage on sheath
H	Sheath overheating
J	Short life
K	Loose carbons
L	Broken carbons
M	Missing carbons

	PROBABLE CAUSES	M	L	K	J	H	G	F	E	D	C	B	A	POSSIBLE REMEDY	
1	Current overload	•		•	•	•	•			•			•	Reduce current loading	1
2	Low contact force			•	•	•	•		•		•		•	Increase force if possible	2
3	Poor wire condition		•	•	•		•	•	•	•		•		Check overhead	3
4	Poor current path			•		•	•				•	•	•	Check current path	4
5	Wrong material	•	•		•	•		•	•				•	Check current loading	5
6	Poor wire stagger	•			•					•		•		Check stagger	6
7	Pantograph condition	•	•	•	•					•	•	•		Check mechanism	7
8	Wire suspension	•	•	•	•		•	•	•			•		Type of suspension	8
9	Sectional insulator setting	•	•	•			•	•	•	•		•		Check setting	9
10	Pivot angle				•						•			Correct angle	10
11	Head mass	•	•	•	•		•	•	•	•	•			Reduce mass	11
12	Mixed materials				•	•				•	•	•		Change to carbon	12
13	Mixed running				•		•							Fit all one grade	13
14	Weather conditions	•	•		•		•	•	•				•	Check weather pattern	14
15	Badly fitted strips	•	•	•	•	•	•	•		•		•		Check fitting	15
16	Carbon section too small	•	•		•	•							•	Increase size carbon section	16
17	Carbon section too big				•									Reduce size carbon section	17
18	High contact force	•	•					•	•					Reduce force if possible	18
19	Panto speed	•	•		•		•		•		•		•	Check panto aerodynamics	19

For all pantograph carbon solutions contact Morgan Industrial Carbon...

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